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INSANITY AND PELVIC DISEASES IN WOMEN.*

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The idea that insanity in women may stand in causal relation to disordered function or disease of the pelvic organs, is of very ancient origin, and undoubtedly arose on the hypothesis that the uterus, being the cradle of life, was also a Pandorian box from which all nervous and mental deflections were liberated.

If we trace the subject back to the earliest, prehistoric times, we will find that such a theory is not inconsistent with the then existing religious belief, for sex-worship was one of the earliest forms of devotion, and the sexual organs the most sacred of known objects.

Woman, therefore—representing one element in the trinity—was thought to be the subject of demoniacal possession of the mysterious organ whenever her mental integrity became involved.

That pelvic disease is of very frequent occurrence among insane women, is shown by the following tables, which also indicate the different groups of psychoses in 326 and 100 cases respectively.

TABLE I.¹

PSYCHOSES	PELVIC DISEASE
Senile	11
Dem. paralytica	25
Psychoses associated with other diseases	11
Alcohol	25
Drug	3
Infective exhaustive	1
Invol. melancholia	9
Depression, undif.	25
Dem. praecox	71
Paranoic condition	15
Manic depressive	73

*Read before Section on Gynecology and Obstetrics, Fifty-First Annual Meeting, M.S.M.S., August, 1916.

1. Aline E. Perkins, M.D., *Psychiatric Bulletin*, January, 1916, p. 28.

Epilepsy	14
Psychoneuroses	6
Const. inferiority	14
Imbecility with insanity	15
Unclassified	4
Not insane	4

326

In 100 unselected cases taken from the wards of the Pontiac State Hospital I found the following:

TABLE II.

PSYCHOSES	PELVIC DISEASE
Dementia—	
Epileptic	12
Paretic	4
Chronic	23
Monomania	20
Paralytic	2
Doubtful	1
Epilepsy	1
Epileptic—	
Insanity	1
imbecility	1
Imbecile	4
Mania—	
Acute	2
Chronic	8
Recurrent	7
Melancholia	9
Paranoia	2
Insanity—	
Recurrent	1
Circular	2

100

Such statistics, showing the kinds of pelvic disease associated with particular psychoses, however interesting they may be, are misleading for such associations are not constant, and will be found to vary with each new series examined. Personally I do not believe that, as a rule, the pelvic condition has anything to do with the type of the associated psychosis. In the first table the percentage of cases in which pelvic disease was found was 68, while in the second list it happened to be 100, a total which would not often occur, as 81 per cent. fairly represents the frequency in cases which have come under my own observation. I have elsewhere classified

the pelvic disorders which are most commonly found in insane women.²

If we accept Petersen's definition that "Insanity is a manifestation in language and conduct of disease or defect of the brain," it is necessary to determine what causes may lead to the mental affection and to what extent, if any, pelvic disease in woman enters into the production of these morbid processes in the higher cerebral centers. In order to arrive at definite and logical conclusions, we may not assume that, because a woman suffering from uterine or adnexal disorder develops insanity, we are dealing with a case of *post hoc propter hoc*, and so dismiss the matter as settled, but rather by careful study of antecedent conditions and past history, together with analysis of present psychic and somatic findings, we must gather all available data from which reasonable deductions may be drawn.

Such investigation will demonstrate what has been so well stated by Mendel,³ and confirmed by all alienists, that "In the great majority of cases the insanity is the product of a combination of causes, and only in part of the intoxication psychoses and those called forth by trauma does a single etiological factor seem sufficient to produce the disease."

And it will be further discovered that, in an exceedingly large number of cases scrutinized, the incidence of heredity appears conspicuous. This implies that an inherited instability of the nervous system, a psychopathic taint, predisposes to mental breakdown, the necessary combination of conditions only being required to precipitate the explosion. "A sound nervous system may break down as the result of financial ruin, consequent starvation and physical illness; but an unstable nervous system may break down on account of normal uncomplicated childbirth." (Stoddart).

As illustration, let us take a hypothetical case, one which might be founded on reality so common are such histories. A woman with inherited nervous instability lives a monotonous life on the farm, works hard, has little or no recreation, possibly has borne children in rapid succession. An added burden is suddenly imposed; a member of the family is taken ill. She is persistent in her care of the sick one; she passes disturbed, wakeful, anxious nights; her appetite fails; her functions become deranged, insomnia supervenes and, finally, the mental and physical stress becoming too great, her mind gives way. She is taken to an asylum,

where a badly lacerated cervix, a defective perineum, and an endometritis with profuse leucorrhea, are found—conditions which may have existed, in part, for years without giving rise to particular distress. Under hospital treatment and the repair of the local lesions, the woman recovers her mental health and in due time is returned to her home. Can it be truly claimed that in such an instance the pelvic disorder was responsible for the mental derangement? Yet it is in just such cases we so frequently hear it positively asserted that the local disease was responsible for the insanity, no account whatever being taken of the other more potent exogenous causes, or of the underlying psychopathic taint.

It is true that occasional cases do present in which the insanity is apparently due to the direct influence of the pelvic pathology, as following continued brooding over the presence of a tumor or the like, but such instances are of so infrequent occurrence as to be almost negligible. A case of this kind is reported by Russell.⁴ An attendant on an epileptic ward herself became epileptic. Examination revealed the presence of double ovarian new-growths. Both ovaries were removed—one of which weighed nine pounds—and the patient immediately recovered her mental health. Take on the other hand one of my own cases: A patient, with a bad heredity on one side, was apparently cured by the removal of an ovarian cystoma, but relapsed in the course of a few weeks, and continued as an asylum patient. In another case, from a family of neuropaths, the operative treatment of an ovarian cyst, with the repair of other defects, resulted in relief of the active mental symptoms, but a return to her home surroundings, brought on a renewed attack and she again became a resident of the asylum. In each of these cases the presence of the abnormal growths might be claimed as the exciting cause of the insanity, but, with the exception of the first, the pelvic condition was probably only one of several incidents, in the development of the mental catastrophe.

In what has been said, reference is had only to the usual genesic disorders, and no account has been taken of the toxemias and infections, especially those of pregnancy and childbed, which may be directly traced to the pelvis. Neither can we, in our present knowledge of the internal secretions of the ovary, state with any assurance, what effect the perverted function of these glands may have on the normal working of the cerebral cortex—the seat of the

2. Am. Jour. Obstetrics, January, 1899, p.

3. Text Book of Psychiatry, 1908, p.

4. Proceedings Royal Soc. Med., Dec., 1911.

mind. I believe, however, that it may be positively affirmed that pelvic disease in women has but little influence in the production of mental alienation.

But, irrespective of causation, there can be no doubt that insane women suffering from pelvic disorders, from an humanitarian point of view at least, are entitled to any and every form of treatment which will lessen local irritation and relieve somatic suffering.

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RELATIONSHIP BETWEEN GYNECOLOGIC AND NEUROLOGIC CONDITIONS.*

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Smith's admirable review of the literature on the relationship between gynecological and neurological conditions not only shows the interest the gynecologist has always had in such relationship but also demonstrates that he has progressed in his understanding of the subject. Yet, while this is undoubtedly true of the man with experience in the diagnosis and treatment of diseases peculiar to women, the erroneous conclusions based upon imperfect observations are so prevalent today that I welcome this symposium which I think is particularly timely. For failure to recognize what gynecological treatment can accomplish in the case of the woman with a functional nervous derangement is so disastrous for both patient and physician that any earnest discussion of the subject can hardly fail to be of benefit.

For the purpose of this discussion it will be assumed that the term neurosis means a functional disturbance of the nervous system or parts of that system. Notwithstanding the advances which have been made in neurology during the past twenty-five years, the word "neurosis" must still be used for a train of symptoms or for a condition which from their very nature can hardly be otherwise than indefinite. At least this is certainly true for those who are not specializing in neurology, but who first see and examine women whose nervous systems are deranged. The intelligent practitioner is usually able to distinguish with a fair degree of accuracy between organic and functional nervous derangements. In the case of men there is no hesitation regarding treatment. Their genital organs are not interfered with but the patients are advised regarding the treatment, general

or local, appropriate for the particular case. But with women suffering from functional nervous derangements, it is entirely different. So firmly fixed is it in the minds of the profession and of the laity that functional nervous diseases in women are caused or at least aggravated by pelvic disease, that so-called treatment of the female genital organs is at once begun no matter whether they be diseased or not. How common is the experience of examining a woman with all sorts of nervous manifestations who has been subjected to months or years of office treatment or possibly has undergone two or three surgical operations for pelvic lesions which we are quite certain never existed. In the great majority of cases this unnecessary treatment was not carried out for pecuniary reasons but from failure to grasp certain fundamental facts regarding the relationship between the female pelvic organs and neurotic conditions, or because of an inability to determine whether the pelvic organs were actually diseased. In either case the physician is at fault for if he be not competent to make a diagnosis, he has no right to subject his patient to unnecessary pelvic treatment.

What we want to get out of our minds is the fixed idea, which might very well be called a neurosis on our part, that there must be a connection between functional nervous derangements in women and disease of the pelvic organs. No one can deny that there may be such a connection, but that there must be is far from the truth. After all, when once this fundamental fact is grasped, it comes down to a matter of diagnosis. In a given case has the woman a functional and not an organic nervous trouble, and second, has she any trouble in the pelvis. If she has, is this a local manifestation of her faulty nervous system or is it due to true pelvic pathology.

Reviewing our cases they naturally fall into certain groups. These types of cases are not always distinct for there will be borderline cases where it will be difficult and, sometimes almost impossible, to assign them to any one group, but as a rule they can be fairly well classified as follows:

1. Women with neurological symptoms whose pelvic organs are anatomically and physiologically normal.
2. Women with neurological symptoms whose genital organs are anatomically normal but whose functions are abnormal.
3. Women with derangements of the nervous system whose pelvic organs are unquestionably diseased and where the disease may aggravate

*Read before Section on Gynecology and Obstetrics, Fifty-First Annual Meeting, M.S.M.S., Houghton, August, 1916.

but does not necessarily cause the nervous manifestations.

4. Women of naturally good nervous organizations whose nervous manifestations have followed upon and hence apparently are due to true pelvic lesions.

1. Women with neurological symptoms whose pelvic organs are anatomically and physiologically normal.

Naturally this is a smaller group than the one next to be considered since the neurotic woman is apt to have pain in the pelvis, especially at menstrual periods, just as she is prone to have pain in other parts of her body. Still there are many women with unstable nervous systems whose menstrual functions are perfectly normal and who have perfectly normal pelvic organs until perhaps they are injured by injudicious treatment. The neuroses may be congenital or acquired, may be mild or severe, yet the menstrual functions may be perfectly normal. Perhaps the largest number of individuals of this type are to be found among the epileptics, if we may class this disease among the functional neuroses. At least for our purposes it may be so classified, since its relationship or rather lack of relationship to pelvic disease is so illustrative. In many women epileptics the attacks come only at the menstrual periods, the latter being regular and painless and the pelvis perfectly normal. This leads to the faulty deduction that removal of the ovaries and the resulting cessation of the menstrual flow will lead to a cessation of the epileptic seizures, notwithstanding the mass of clinical evidence to the contrary. Nothing, perhaps, is more pathetic than the efforts of the patient and her family to prevail upon the gynecologist to perform the operation in question. Too often the conscientious specialist's advice is not heeded and the operation is performed by some surgeon unacquainted with or unheeding of the experience of the past, with the result that the victim of epilepsy not only soon has as many if not more seizures to endure, but to this disappointment is added the sufferings due to the ushering in of the artificial menopause.

What has been said about the epileptic is just as true for the woman who suffers from hysteria, neurasthenia, neuralgias in various parts of the body, hyperesthesia and anesthesia areas. The pelvic organs and their functions may not be deranged, although this is usually the case. If, however, the woman be so fortunate as to escape such derangements it is the height of folly to interfere in the pelvis under the mis-

taken impression that thereby the patient will be benefited.

In this group should be placed the girl just before or during puberty or when menstruation is delayed. Her nervous manifestations may be congenital or may be transitory and due to her age. In the large majority of cases it is best to treat such patients without reference to the pelvis, giving them the benefit of the doubt with the idea that eventually their pelvic functions will be normal. It is little short of criminal to give so-called local treatments to such patients. Such a course, more than anything else, aggravates the nervous trouble and may be the factor in making them confirmed nervous wrecks.

2. Women with neurological symptoms whose genital organs are anatomically normal but whose functions are abnormal.

In this group may be placed the great majority of young unmarried women suffering from some form of functional nervous trouble with manifestations in the pelvis, although the pelvic organs are apparently normal. Such patients not infrequently have poor family histories, coming from stock with unstable nervous systems, where there are many instances of alcoholism, epilepsy, hysteria and mental peculiarities. However, in the majority of instances the neuroses are not congenital but acquired as shown from the fact that up to a certain age the patients have been perfectly healthy. Young women belonging to this group will be found largely among those who have developed their brains at the expense of their bodies, school girls, school teachers and people of that class. No matter what arguments may be presented for the emancipation of women, their right to choose careers which will not compel them to undergo the hazards of childbearing, I do not think it can be gain-said that they pay a certain price for such privileges. It is almost impossible to get at the inner life of the individual, hence impossible to judge how much the unsatisfied longing for maternity may affect the nervous system. The individual herself usually fails to realize the cause of her restlessness which she seeks to assuage by more and more intellectual labor or in some cases by the diversions of society. All these causes of nervous instability are hard to grasp, difficult to define, but that they exist is beyond question.

Pelvic examinations in women belonging to this group are not easy to make without anesthesia, and bimanual recto-abdominal examinations, especially in fleshy women, are not always satisfactory. Such patients almost always have

hyperesthesia in the lower abdomen, hence tenderness in the region of the ovaries is of very little, if any, diagnostic value. One must decide almost entirely upon the anatomical findings whether the pelvic organs be diseased and usually this can be done by experienced hands without anesthesia. In the hands of the inexperienced, diagnosis is out of the question either with or without anesthesia. These patients are great sufferers from injudicious pelvic interference. Palpation of the lower abdomen shows areas of tenderness either in the right or left lower abdominal quadrant. If the tenderness be at the right, without consideration of the history, it is assumed that the appendix is diseased and should be removed. If the hyperesthesia be to the left, the left ovary is at fault and should be removed. The patient is promised a subsidence of her nervous symptoms after the offending organ has been removed and is deeply disappointed when these symptoms still remain and even increase months and years after the operation.

In the face of our past experience before it was realized that pain in the region of the pelvis does not necessarily mean disease, it is certainly refreshing to hear the explanations of the operator regarding his findings. The appendix is reported as being long, the longest ever seen, as if it were disgraceful for this organ to be beyond a certain size. If a concretion be found in the appendix, the whole question is settled. Such a concretion gave rise to excruciating pain low down on the right side and accounted for all the neuroses present. When the patient not only does not improve nervously after the operation but even grows worse from the trauma incident to the surgical procedure, the operator styles her a neurasthenic or crank and washes his hands of her. Can it be denied that such is the history of thousands upon thousands of cases in this country every year? These mistakes in diagnosis, if they can be called mistakes, need occur in only a small percentage of cases if the physician be competent to outline accurately the contents of the pelvis and realizes that pelvic pain and tenderness, dysmenorrhea and menstrual irregularities may, in the presence of anatomically normal pelvic organs, be explained as local manifestations of a generally vitiated nervous system.

What such patients need is the most common sense general treatment; change their occupations, curb their intellectual ambitions, see that their bodies as well as their minds are exercised, encourage marriage, and take away the fear of childbirth from their minds. All

these things and more along the same line will help, provided the true condition be recognized and the pelvic organs be left alone.

3. Women with derangements of the nervous system whose pelvic organs are unquestionably diseased and where the disease may aggravate but does not necessarily cause the nervous manifestations.

In this group there is a distinct relationship between the pelvic lesions and neuroses, that is, the latter are usually made worse by the irritation of the local disease. It is necessary to use the greatest judgment in determining the degree of such relationship and here the history of the case will prove most valuable. In the case of a woman suffering from relaxation of the pelvic floor due to childbirth or to long standing pelvic inflammation, it is of the utmost importance to determine what kind of a nervous system she had before there was disease in the pelvis. In the case of a woman with relaxed pelvic floor suffering from bearing-down sensations, backache, headache, insomnia, etc., it is most essential to determine whether she was normal so far as her nervous system was concerned prior to the appearance of the pelvic trouble. If she gives a history showing a previous unstable nervous system, she must be told that while undoubtedly her nervous symptoms are enhanced by the pelvic lesions and while the cure of the pelvic disease will make her better since it will remove a certain source of irritation, such treatment need not be expected to substitute one kind of a nervous system free from neurotic tendencies for another which the patient probably has had from birth. In other words, the same holds true here as in the case of the insane woman. It is a fundamental principle of treatment of the insane to remove all source of irritation, mental or physical which may make them worse, but no one these days expects the insane woman to be cured by the removal of the pelvic trouble. So with the woman with a neurotic tendency or one suffering from various neuroses, her pelvic lesions should be cured but that in itself does not mean that she is to become a normal individual so far as her nervous system is concerned.

The patient and friends should be told this before any treatment be instituted for the relief of the pelvic lesions. It is best to overemphasize this fact to counteract the tendency of such women to expect too much from pelvic operations. Otherwise, they may be doomed to disappointment and the operator placed on the defensive, for the woman has been operated upon, yet is not cured so far as her nervous

system is concerned. It is unwise to speak of reflex pain and explain neuroses of central origin as being reflex from pelvic lesions. Best be on the safe side and tell such patients that the cure of the pelvic condition only removes one source of irritation, that such treatment only places the patient in a position where treatment directed toward the nervous system may be expected to result in either a cure or an amelioration of the symptoms. Personally, I prefer to turn such patients over to the neurologist for treatment after the pelvic condition has been attended to, since I have come to realize that the best results in the case of the neurotic individual can only be obtained by a special treatment which most practitioners have not the time nor patience to carry out.

4. Women with naturally good nervous organizations whose nervous manifestations have followed upon and hence apparently are due to pelvic lesions.

Quite a percentage of women can be placed in this group. Here, the naturally normal nervous organization has been changed to an abnormal one from the irritation due to neglected pelvic lesions. Here, the headache, backache, insomnia, mental depression, etc., are directly caused by the pelvic trouble and when this is rectified, they disappear and the patient reports that she has never felt better in her life. These are the grateful patients who sing your praises because you have been so successful. In reality your work was the same with the patients in the group last considered, but it is hard to be grateful when you are miserable, which again is a lesson to us to be careful what we promise from pelvic treatment.

Some five or six years ago, my colleague, Dr. Carl D. Camp, was so kind as to examine neurologically some twenty-five gynecologic patients from the Gynecologic Clinic of the University Hospital. All these patients complained of pain and tenderness in the lower abdomen and it was the purpose of the investigation to see if there was any relationship between these pelvic pains and tenderness and the neurological findings, the pelvic pathology being determined definitely in most instances through the operative procedures. The results of these examinations, as well as Dr. Camp's conclusions are most interesting. The patients showed all sorts of pelvic pathology, varying from slight pelvic adhesions to carcinoma of the uterus. In other cases, while there were pelvic symptoms there was no discoverable pelvic pathology. For the purposes of this paper it is not necessary to discuss the findings in detail but it is better

to give Dr. Camp's conclusion since they have a distinct bearing upon the subject under discussion. Dr. Camp's report is as follows: "Summarized report of the results of examinations of twenty-five cases for referred hyperesthesia. In all the cases 'with pathology' the results of the sensory examinations would appear to be fairly reliable as showing a pathological condition but there is nothing in the size or location of the areas which would give a definite clue to the nature of the pathological lesion or its location. There were some cases showing hyperesthesia but without pathology, and there were some cases with pathology but without hyperesthesia. The pathology in these latter cases, however, is apparently not inflammatory nor irritating. So far, I should say, that we have no findings which would indicate 'referred hyperesthesia' is of any value for the diagnosis of the pelvic disease."

In conclusion it may be said that the final word has not yet been said on this subject. As our clinical and pathological knowledge of neurological and gynecological conditions increases the better will become our ability to judge what this relationship is and to classify and aid our patients.

A BRIEF ANALYSIS OF THE NERVOUS SYMPTOMS ARISING IN THE FEMALE PELVIC ORGANS.*

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Dr. Peterson has so well expressed the opinions of the gynecologist of today on this subject, and I agree with him so thoroughly, that I shall omit entirely the first part of the paper which I have prepared, and which would be largely a repetition of what he has already said.

I want, however, to say a few words further in regard to the neuroses. In the patients that come to us with manifestations of a functional nervous disorder we may as a rule recognize two main elements. The first of these is a condition of increased irritability, or what is commonly known as "nervousness." We find first that the reflexes are quickened, exaggerated, and less well co-ordinated. Secondly, the patient is more sensitive than normal to pain and all sensory impressions. Thirdly, her emotions are more easily excited, she is timid, over anxious and irritable; fourthly, she is subject to various functional disturbances such as those of digestion, menstruation and urination. It is difficult

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to say how much the exaggerated emotions enter into these latter disturbances, and how much the increased irritability. What Cannon has said in his recent work on the effect of fear, hunger, and anger upon the functions, is full of suggestion to the clinician, and well worth reading.

There are numerous causes for this increased irritability which we may conveniently group as follows:

1. Certain drugs, such as caffeine, nicotine and strychnine.
2. The action of certain ductless glands, the overactive thyroid, for example, and the ovary during menstruation and at the menopause.
3. We have a condition commonly known as intestinal stasis or intoxication that is associated with certain digestive disturbances. I do not wish to discuss here the nature of this condition, but simply to say that with it we often find a marked increase of irritability.
4. Prolonged fatigue is a very common cause to be remembered. It is, of course, the result directly or indirectly of many influences, but whatever this influence, it results in increased irritability.
5. Close application of the intellectual faculties, pain, and ungratified sexual desire are frequent causes, and there are undoubtedly others which we might place in this group.
6. There is one cause of which I have not spoken, and which I have left to the last because I think it is the most important of all and is often overlooked. I refer to the manner of thinking. (what the Germans call the "Denkweise") of the neurotic individual, the constant dwelling on the same subject, the mental uncertainty and confusion. The frequent emotional disturbances of these individuals leads to greatly increased irritability, and is the reason why some individuals under physical conditions that are apparently conducive to good health, and seemingly with all harmful mental influences removed, fail to improve, or do so very slowly. Neurologists have taught us to more clearly recognize this cause.

Now we commonly have more than one of these causes enumerated above present in the same patient, and for those of us who are not neurologists they are frequently hard to differentiate. They occur frequently enough, however, in isolated form that they may be mentioned separately.

Why should one distinguish this element of increased irritability so clearly from the second one which I am to mention? First, because a

large proportion of nervously disturbed patients that come to us are suffering practically from this element alone and, strictly speaking, should not be called "neurotic." Secondly, our neurologists do not commonly designate as "neurotic" those patients suffering simply from this increased irritability (or simply nervousness). The failure on our part to recognize this has frequently led us to misjudge some of their teachings.

The second great element in these patients is their underlying mental make-up. Now, each one of us is a result mentally of two factors—heredity and environment. It is largely a matter of opinion as to which is the more important, but the point I wish to emphasize is that when maturity has been reached we remain practically fixed in that mental make-up, and go through life with but little change. Our way of thinking, and our emotional natures remain about the same.

We must ever bear in mind that there is no sharp line to be drawn between the so-called normal and the so-called neurotic individual. We all of us in many respects are strong and firm. We likewise are each of us sensitive to various mental trauma in different degree, the shock or strain that seriously affects one person does not another. For example, the knowledge that he has syphilis produces a most marked anxiety and depression in one patient, with another there is apparent indifference. We may be sensitive to a few such influences or to many. When a person is far more sensitive than the average, we speak of him as being "neurotic," when not, as "normal," and it is with this understanding that I wish to use these terms.

Now, what are the characteristics that distinguish individuals with a neurotic mind from those that we call normal? In the first place, they possess a striking lack of moral courage or fortitude, an inability to meet stress or shock with equanimity. We observe also a marked lack of adaptability to environment in such patients, which if not the same is at least closely allied to a lack of fortitude. They are unable to fit themselves readily into the life which they are called upon to lead. This feature is so marked that the neuroses have often been defined as a "lack of adaptability to environment." Secondly, we notice that these patients are more emotional than others. Thirdly, suggestibility is increased in greater or lesser degree, particularly in the class that we choose to call hysterical. Fourth, their manner of thinking is not normal. This feature interests

us especially in considering the matter of physical disease.

Of the ideas that reach our minds it is principally those that affect our interests that are long harboured there. They are disposed of in one of three ways: they are acted upon, the action is taken out in fancy, or they are dismissed without either. Unpleasant ideas that affect our interests take one of these three courses, and are dispatched with a certain degree of promptitude. Not so with the neurotic mind. Such unpleasant ideas remain there, they become exaggerated and distorted, and if carried long enough become fixed ideas, obsessions, or phobias.

A patient with a fundamentally neurotic mind develops symptoms from a number of *direct* causes, aside from the predisposing increased irritability already discussed. We may divide them for convenience into two groups, one of acute causes, and one of more constant ones. Among the acute causes might be mentioned any sudden shock, such as the loss of a near relative, a financial loss, a railroad accident, or a surgical operation. Among the more chronic causes may be mentioned (first) a lack of suitable work. Those of you who have not read Cabot's "What Men Live By" should do so. He puts much stress upon this cause of instability. Of great importance also is (second) the element of recreation; without it responsibilities weigh heavily, a sense of proportion is lost, life becomes too serious, and strain results. Another cause (third) we find in disturbances of their sexual life. I am using the term in a broad sense. A disappointment in a love affair, inattentiveness (imagined or otherwise) on the part of the husband, jealousy, sterility, and the non-gratification of the maternal instinct, all come under this general head, and are active, potent causes for the development of nervous symptoms in the neurotic individual. This is here merely a recognition of a most important cause, the limitations of which are yet undefined. Under a fourth head may be placed all sorts of shortcomings, sins, or crimes, resulting in conflicts between ideals or conscience, and a knowledge of our actual behavior. The disturbance caused is only in a very general way proportionate to such actual shortcomings, sins, or crimes, but far more so to the particular sensitiveness (or conscience) of the individual. A housewife may become more disturbed over the neglect of some trivial household duty than some individuals would over a serious crime. The same principle applies to the matter of physical disease, and this brings

us more nearly to our subject. The amount of concern or anxiety displayed by a patient over her condition is only in a very general way proportionate to the importance of the physical abnormality, but is closely related to the fear or antipathy that the patient may have for that particular disease or condition. And so it is, for example, that we find a patient oftentimes far more disturbed over some slight disturbance in menstruation than others would be over the presence of a fibroid or carcinoma.

Let us say, for example, that a patient's attention has been directed to the pelvis by something which she believes to be a sign of disease there, it may be pain, disturbance of function, or something which she feels and thinks may be a growth. When she has become sufficiently concerned she goes to a physician for relief. It is most important that we bear in mind that it is her concern in regard to herself that is the immediate cause of her coming, and that this in no way reflects the seriousness of the physical condition. We take her history, we make a careful examination of her pelvis to find, if we can, an adequate cause for her complaint. When we find that symptoms and disease correspond we are satisfied, and advise and treat her accordingly. Granting that even the most expert will occasionally overlook or be unable to discover the existing physical cause of the trouble, it is nevertheless true that the physician who is familiar with this field of work will almost always be able to discover it if it exists. It happens, however, very frequently, that marked discrepancies exist between the symptoms that are enumerated to us and the actual condition that we find in the pelvis. Either the pelvic organs and their functions are found to be normal, or the physical condition, only slightly abnormal, does not give us adequate reason for her complaint. After assuring ourselves that other physical conditions may be eliminated, we must turn to her nervous system for the reason, and this examination should be as thorough as our present knowledge of such matters permit. The expert neurologist will naturally be able to make a more accurate estimate of a patient's nervous condition than we, but I believe it is usually possible for any of us to determine whether we are dealing with a disease of the pelvis, or a functional one of the central nervous system, or perhaps both.

Pelvic disturbances of nervous origin fall naturally into 3 divisions: sensory, muscular and secretory. Of the three the sensory disturbance are the most important. I think we may safely ascribe some of the milder degrees of pain and

discomfort in the pelvis to increased irritability, but when such become exaggerated we may look for the cause in a disturbed mental condition, a general conception of which I have ventured to give you earlier in this paper.

Muscular disturbances are best illustrated by vaginismus. The trouble is purely a mental one. Fear of being hurt, antipathy for the husband, or fear of pregnancy, cause a marked increase in the psychic reflex controlling the striped musculature of the pelvic outlet, and spasm occurs sometimes even before any object has touched the vulva. Increased irritability is usually responsible for the increased frequency of urination occurring in nervous patients, and this element is apparent in some cases of dysmenorrhea. Into both of these latter troubles a mental element is also frequently apparent.

The secretion from the Bartholinian glands is perhaps the only true secretion in this region that we find affected by mental behavior. Menstruation, though perhaps not to be placed under the head of secretions, is markedly influenced by the nervous system.

Nothing really can be said of the simple leucorrheas not caused by infection or local disease, and which are so frequently found in women. I merely wish to point out that the increased flow of mucus is not caused by any disease of the lining of the vagina or uterus. We have no reason to believe that the nervous system has directly anything to do with it. I have tried here to give you a brief outline of important principles in the estimation of this class of cases; each patient will necessarily require individual investigation and study.

SURGICAL PROGNOSIS.*

FRANK B. WALKER, M.D.
DETROIT, MICH.

This subject was suggested by the lectures of Sir James Paget on Risks of Operations and The Calamities of Surgery. They were delivered in 1867 and 1868 and mirrored the status of surgery fifty years ago. The influence of sex, age, acute disease, alcoholism and certain organic degeneracies were appreciated and the lecturer showed admirable insight into the essentials for successful surgery.

Since then through the discoveries of Pasteur, Lister and Koch and the work of Virchow, Senn, Price and a host of others, great progress has been made in diagnosis, surgical technic

and hospital efficiency and yet a study of the present situation discloses much of the fallibility that existed a half century ago.

Let me narrate a few cases. Some of them were my own. Others came under my notice.

A few days ago I was told of a man who had been transferred from a police station to a hospital. There were some evidences of alcoholism and the case was treated as such. The prognosis was not considered grave. The end came soon and abruptly. The coroner reported a broken neck as the cause of death.

Sometime ago a nearby physician was called to attend a woman with a painful knee. I do not know just how a diagnosis was arrived at but it was called gout and a strict diet imposed. Two days later the doctor telephoned around the corner to inquire how the patient was getting on and assured the attendant that by avoiding meat her patient would recover. By the aid of ether anesthesia I made out a transverse fracture of the femur near the knee.

Six weeks ago a dentist whom I treated several years before for alveolar disease brought a patient with a suspected similar affection. The patient said he had consulted four dentists and three physicians during the preceding two months and all had declared his mouth to be in good condition. He had been the victim of much dentistry. His right cheek was painful and tender, the gum was swollen and sore. X-ray examination showed decay of the root of a molar to which a long bridge was fixed, and there was also necrosis of the jaw. After removal of the bridge and the offending tooth the antrum was opened thoroughly and two drachms or more of foul smelling pus drained away.

Recently there was referred to me a patient with a small tumor on the lower jaw. The prognosis was grave. X-ray examination showed decay of an adjacent tooth and necrosis of the jaw. Microscopic examination of the tumor was reported negative. Recovery.

Several years ago a sophomore student consulted me for balanitis and phimosis. His general appearance was most healthy and some consideration was given to his professional attainments. A circumcision was advised preemptorily and done forthwith but the wound did not heal. Then the student informed me that sugar had been found in his urine while pursuing the course in urinalysis. Recovery followed appropriate treatment.

A few months ago a small child with empyema was prepared for thoractomy. Contrary to Holt's advice to do that operation on young

*Read before the Section on Surgery. M.S.M.S., Fiftieth Annual Meeting, Grand Rapids, Sept. 1, 1915.

children under local anesthesia that case was etherized and died on the table.

A year ago a man was admitted to the hospital with the history of an injury to his hip several weeks previous. X-ray examination showed dislocation. There was some shortening and slight deformity. Reduction under anesthesia was attempted without success. There was a fair degree of function and, as the patient was not in fit physical condition and was not a good operative risk, he was advised to be content. It was a compensation case. The patient was dissatisfied and his employer was anxious for full recovery. Operation was followed by sepsis and sepsis by death.

Nine months ago I was consulted by a woman, 50 years of age, for pain in the lower abdomen and pelvis, painful micturition and constipation. Her abdomen was large and nothing could be learned by palpation. Digital examination of the rectum revealed nothing. Catheterization of the bladder and urinalysis were also negative. By vaginal examination the cervix was located above the symphysis. A rather hard mass was felt posteriorly. Tumor of the uterus, probably fibroid, was diagnosed and operation with uncertain prognosis advised. A trained gynecologist concurred. A third consultant gave a diagnosis of cancer of the uterus and opposed operation. She entered the hospital for treatment. Abdominal incision showed the uterus to be retroverted but otherwise normal. A large mass was found posteriorly encasing the upper rectum. With the patient etherized the tumor could, with some difficulty, be felt by the finger through the anus, and a stricture was divulsed. Wassermann examination was negative. Microscopic examination of debris from the stricture disclosed a carcinomatous growth. The patient lived six months.

The foregoing citations present a variety of not uncommon cases in which the prognosis went wrong. It is important to know how such mistakes may be avoided. Let us consider the basis of prognosis.

Surgical prognosis is prejudgment of the course and termination of surgical disease. Obviously there can be no knowledge in advance concerning any disease the nature of which is not understood; nor can the finale be foretold unless the kind of treatment proposed and its results in similar cases be known. Surgical prognosis is founded therefore upon correct diagnosis and accurate knowledge of the effects of surgical treatment.

A correct diagnosis is the finding after a

careful and thorough examination. Such an examination should be both local and general. The lesion underlying all other phases of the disease is first investigated with the idea of determining its location, its nature and extent, its acute and emergency or chronic character. Both clinical and laboratory means and methods are to be employed. In some instances, as in the last case narrated, the exact nature of the lesion can not be diagnosed without anesthesia. In such cases the important thing to know is whether operation be necessary, and if needed, whether it be urgent. A perforating gun shot or stab wound of the abdomen would represent such an emergency case.

The general examination should show the temperature, pulse, blood pressure, heart condition, respiration, condition of the lungs, blood, urine, renal function in pertinent cases, presence or absence of nose, or throat disease, skin lesion if any, and any other existing condition which may in any manner influence the welfare of the patient. The employment of diagnostic instruments and expert advice especially of an internist should not be neglected wherever they may be of service.

Having arrived at a diagnosis the next step in the prognosis is a clear conception of the treatment, if any be indicated, whether it should be operative or non-operative and immediate or otherwise.

As one's experience grows it becomes evident that certain chronic cases will not improve with operation. This brings up a twofold test of operative treatment, namely, utility and safety. If an operation be of doubtful utility it had better be avoided. Sir James Paget put it this way: "If an operation is not purely and wholly for the good of the patient it should on no consideration whatever be done."

"Next," said Sir James, "Never decide upon an operation even of a trivial kind, without first examining the patient as to the risks of his life." If an operation be not within a fair margin of safety it is unwisely attempted. In making that statement I maintain that, in those emergency cases, in which operations are done at great risk, there is still a margin of safety because of the greater risk by withholding operative treatment. Such cases are those of internal hemorrhage, intestinal obstruction and brain compression due to injury.

Certain acute cases are urgent and delay is dangerous. Those mentioned above belong to this class. Others are perforations of the hollow viscera, acute appendicitis, peritonitis and spreading infections.

In those chronic cases in which there is no danger from reasonable delay more favorable prognosis will result from careful examination and preoperative treatment. Instead of twelve hours a period of two or three days may well be devoted to preparation. In handling those patients who are crippled by cardiac, renal, blood or other complicating organic diseases team work should be encouraged.

Operative technic and anesthesia both affect prognosis strongly but are too large subjects for extended consideration in this paper. Other things being equal the shorter the operation and the less handling of structures the more favorable the prognosis.

In regard to anesthesia the position seems tenable that the safety of the method compares with the expertness of the anesthetist.

Surgical patients should, in my opinion receive more post operative attention than treatment. Postoperative conditions can more easily be forestalled than corrected. Water administered subcutaneously or a la Murphy is usually more effective than hypodermic stimulation. Morphin reduces shock. Gastric lavage helps persistent vomiting. Care in the diet and rectal enemata simple or with the retained form will usually avoid distention.

A new form of preoperative treatment that has a strong bearing upon surgical prognosis is preventive surgery. It depends upon the education of the public and manifests itself in two ways. It is shown in mass form in the enactment of legislation which will minimize injuries in some cases by removing the causes of accidents and prevent surgical affections in other cases by eliminating infectious diseases.

Preventive surgery is also gaining headway slowly but steadily in the willingness of the laity to accept diagnosis at an earlier stage of the disease when treatment is simpler, safer and more effective.

HOW MODERN SURGERY BEGAN.*

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SAULT STE. MARIE, MICH.

When your Secretary suggested that I read some paper "that I had read for some other occasion," I felt much flattered that I should be accorded such a privilege. When I ran over my meagre supply of formerly prepared papers, I found that most of them had not stood the test of time. It recalled what Dr. David Riesman, one of our clinical professors of Medicine

at Pennsylvania, used to tell us as students, "Write, write much, but do not publish, just yet. Keep your written efforts to look over periodically. You will learn much that way."

In casting about for a subject, I struck upon one which very recently in general reading had grasped my imagination so that I was compelled to ask myself the reason why. Then I had to debate further whether it would appeal to a group of men, most of whom are busy general practitioners. For it has to do with one of the many epoch-making periods of the history of medicine with which you are more or less familiar. Then I took it for granted that every physician, being a lover of his science, must also be interested in its history. The period was the sixteenth century in Europe, centered in France, with Ambrose Paré as the central towering figure.

A brief sketch for a setting of the man and his times:

Born in 1510 and living to 1590, the three chapters into which his career can be divided, saw France burdened with five different kings in many wars. But this is when the Modern World was born because the Renaissance was beginning to bear new knowledge, while old knowledge was being brought back. Though there were terrible years of struggling during the childhood of this rejuvenating world, they were heroic and glorious because men of vision were looking abroad, there was a groping change in politics and manner of living, and neglected science again was lifting her head. There was the new art of printing, Luther and the Reformation, Columbus and consequent discoveries, Lattimer and his revival of English as a language, Sylvius the Compiler of Knowledge, Vesalius of Padua, (Paré's contemporary), the Restorer of Anatomy, Malpighi, the demonstrator of cells as distinct entities, Linacre, founder of the Royal College of Physicians in London, student migrations to the Southern seats of learning, and many other men and events, the grouping of which is not mere coincidence, because, in reality, men were beginning to think.

You recall that there were three orders of medical practitioners. The physicians, who must know Latin, were debased by shedding blood. The surgeons, of the long robe, were colleagues of the learned physicians, and did the serious operations, like "cutting for stone," but were not allowed to prescribe drugs though they must know Latin. (Can you imagine any fee splitting in those days?) Then the lowly barber surgeons, were a heterogeneous lot,

*Read before C. L. and M. County Society, Dec. 6, 1916.

speaking only the vernacular, obtaining their rude training as apprentices in the shop, the hospital and battlefield and practicing in every degree from crown shaving to infringement of the prerogatives of the high and mighty surgeons. We might compare them to the large army of irregular quacks and exponents of isms, which we still have ever with us. The mass of physicians of the sixteenth century lived according to their dreary lights, and because they were ignorant of Anatomy, Physiology, and of the causes and nature of disease, they practiced monstrously and did what damage they could.

Ambrose Pare was apprenticed to a barber-surgeon till he was 23 years of age in the Provinces. Then he went to Paris, and lived as an interne with the miserably crowded hordes in the dirty old smelly Hotel Dieu for three years. After that, in 1537, we find him at the age of 27, and hungry for more experience, attaching himself to the army of Francis I, about to invade Italy.

Until 1569, we see him in the second chapter of his career as a busy and hard-working army surgeon at a time when there was no organized medical corps, and the work was done by men attached to nobles and a horde of hangers-on, charletans, and quacks, who accepted what was given them and took what they could. As Pare remarks, "God knows they were hard put to it to dress the sick and wounded." But he had an enormous experience of a rough and ready kind, and well did he profit from his labors. It is this second chapter upon which I want to expatiate here.

But we must consider what constituted the third chapter so we can have our setting complete. After thirty-three years of the army and with short intervals in Paris, he took up his permanent residence there, and enjoyed his hard-earned honors, if being surgeon to men-ingitic, debauched, vicious and imbecilic kings, the spawn of the notorious Catharine de Medici, could be called honors. While Paris became foul from the blood of those sacrificed by both Huguenot and Romanist, the old surgeon, who himself had no creed, came and went unmolested, serving faithfully all men alike and was saved on St. Bartholomew's Day by the whim of the poor weakling Charles IX, the dupe of the Guises and his own mother.

I doubt if many of us could have long followed him in his daily routine from the time he rose in the morning at four o'clock to when he found his bed somewhere around midnight. He kept this up for years, teaching, operating, writing, encyclopedically, and never forgetting

for a day the advancement of his profession. And when 65 years old in 1575, Pare dedicated his collected works to Henry III, in this apparently boasting manner, "God is my witness, and men are not ignorant of it, that I have labored more than forty years to throw light on the art of Surgery and bring it to perfection. And in this labor, I have striven so hard to attain my end, that the ancients have naught wherein to excel us, save in the discovery of first principles; and posterity will not be able to surpass us, (be it said without malice or offense), save by some additions, such as are easily made to things already discovered." The old gentleman might be surprised today to find what these "additions" have been, but he gave us, who are "posterity," some of the "things already discovered," both from his own knowledge and from the "ancients," and made more easy the advances which were made by Harvey, Hunter, Laennec, Holmes, Lister, Pasteur, Koch, Schaudinn, Ehrlich, Wassermann, Wright, Gorgas, Carter, Osler, Murphy, Flexner, Nogouchi, and the many other great minds of our profession.

When Pare was come to the contemplative age of 75 years, he must needs reply to Gourmelen, (*mon petit maistre*), Dean of the Faculty of Medicine in Paris, who publicly denounced him because he used the ligature instead of the cautery in amputations. The answer was made by appeal to his successful experience, a narration of his military life, typifying that of the times, and illustrating the condition of surgery in the sixteenth century. In the extract which we hope we have happily chosen from these "Journeys in Diverse Places" to illustrate our text, we will endeavor to demonstrate the remarkable personality, vigor, and simple straight-forwardness of the author. He believed fully in the healing force of Nature, and his refrain, the same as he had written over the door of the Hotel Dieu where it can be seen to this day, was: "I dress the wound, God heals it."

Without preface, Pare begins his "Journeys in Diverse Places." "I will here show my readers the towns and places where I found a way to learn the art of surgery, for the better instruction of the young surgeon." In his first battle—"the enemy was forced to give ground and retreat into the castle which was captured by Captain LeRat—he received an arquebus shot in his right ankle and fell to the ground at once and then said 'Now they have got the Rat.' I dressed him and God healed him."

"Being come into the city, I entered into a

stable, thinking to lodge my horse, and found four dead soldiers, and three propped against the wall, and they neither saw, heard, nor spake. As I was looking at them with pity, there came an old soldier who asked me if there was any way to cure them. I said no. And then he went up to them and cut their throats, gently, and without ill will toward them."

After describing two days of carnage, Pare continues, (and this is where he made one of his two great contributions to surgery), "Now I was at this time a fresh-water soldier; I had not yet seen wounds made by gunshot at the first dressing. It is true I had read in John de Vigo, first book 'Of Wounds in General,' eighth chapter, that wounds made by firearms partake of venosity, by reason of the powder; and for their cure he bids you cauterize them with oil of elders scalding hot, mixed with a little treacle, (syrup). And to make no mistake, before I used the said oil, knowing this was to bring great pain to the patient, asked first before I applied it, what the other surgeons did for the first dressing; which was to put the said oil, boiling well, into the wounds, with tents and setons; wherefore, I took courage to do as they did. At last my oil ran short, and I was forced thereof instead to apply a digestive of the yolk of eggs, oil of roses, and turpentine. In the night, I could not sleep in quiet, fearing some default in my cauterizing, that I should find the wounded to whom I had not used the said oil dead from the poison of their wounds; which made me rise very early to visit them, where beyond my expectations, I found that those to whom I had applied my digestive medicament had but little pain, and their wounds without inflammation or swelling, having rested fairly well all that night; the others, to whom the boiling oil was used, I found feverish, with great pain and swelling about the edges of their wounds. Then I resolved never more to burn, thus cruelly, poor men with gunshot wounds."

As a corollary to this epoch-making incident, Pare speaks of a surgeon at Turin "famed above all others for his treatment of gunshot wounds" with a secret "balm." "And he made me pay my court to him for two years before I could possibly draw the recipe from him. In the end, thanks to my gifts and presents, he gave it to me; which was to boil, in oil of lilies, young whelps just born, and earth-worms prepared with venetian turpentine. Then I was joyful and my heart made glad, that I had understood his remedy, which was like that which I had obtained by chance. See how I learned to treat

gunshot wounds! Not by books, *mon petite maistre*."

That anecdote—the trying experience and sane conclusion—are characteristic of Pare. He drew his own conclusion and acted on conviction, and in that he differed from all practitioners of his time. He dared greatly, for he lived in an age of conservative authority. He was one of the foremost clinical surgeons in our annals. And regarding this particular story of the boiling oil, so modestly told, let us observe this: that the simplified wound treatment for gunshot injuries, then introduced, was one of Pare's great contributions to surgery—perhaps his greatest. After Pare torturing of wounded men, put men in ill repute. We can understand from this what was meant when relating the sufferings of a group of wounded. "You, *mon petit maistre*, would have been torn to pieces had you used the hot iron." So let us note as his first important contribution to surgery, the simplified treatment of gunshot wounds.

Now in the year 1552, when Henry II had come to the throne—"he besieged the German camp at Danvilliers—so they had a good shot at our men. There was a culverin-shot pass through the tent of M. de Rohan, which hit a gentleman's leg. I had to finish the cutting off of it, which I did without applying the hot irons." Without using direct words to say so, Pare did tie the vessels with linen threads.

Though given the credit, really, in truth, he never claimed that he had invented the ligature. The Roman Galen used it to control hemorrhage from wounds. But strangely enough, the thought of controlling hemorrhage from amputation wounds seems to have occurred to none until Pare in the middle of the sixteenth century. This may have been the germaine idea from which premeditated, (sometimes meddlesome), surgery grew some three hundred years later when anesthesia and antisepsis were discovered in the great nineteenth century.

The incident has been depicted, you know, in a celebrated painting of the great surgeon on the battlefield, surrounded by prancing horses, stately pavilions, and pompous-looking officers, as he amputates the leg of an anxious soldier, who sits stroking his long beard and gazing at the stump, while Pare waves aside the hissing cautery and applies a linen ligature to the bleeding artery. Was that a notable feat? It marked an era in surgical history and taken with the simplified method of treatment of wounds from gunshot, and in general, it inaugurated a new conception of surgery. Hither-

to an art barbarous and cruel, it had now become beneficent and humane.

One more incident to illustrate what a heart and head this man had developed to go about his work deftly, silently, effectively; how he could soothe pain, encourage sleep, apply dressings, bandages, and splints; and because he took cognizance of the healing forces of nature, he appreciated the value and limitations of food and stimulants, of clear air, and fresh linen.

It was in 1569 when his military career of thirty-three years was drawing to a close and he was surgeon to the King, that he was bade to go to M. Le Marquis d' Aurret, "who had received a gunshot wound near the knee, with fracture of the bone, about seven months ago."

"I found him in a high fever, his eyes sunken, (see this typical picture of sepsis), with a moribund and yellowish face, his tongue dry and parched, and the whole body much wasted and lean, the voice low as of a man very near death; and I found his thigh much inflamed, suppurating, and ulcerated, discharging a greenish, (pyocyanous), and very offensive, (colon bacillus), sanies. I probed it with a silver probe, wherewith I found a large cavity in the middle of the thigh, and others round the knee, sanious and cuniculate; also several scales of bone, some loose, others not. The leg was greatly swelled and imbued with a pituitous humor * * * * and bent and drawn back. There was a large bed sore; he could rest neither day or night; and had no appetite to eat, but very thirsty. I was told he often fell into a faintness of the heart, and sometimes as in epilepsy; and often he felt sick, with such trembling that he could not carry his hands to his mouth. Seeing and considering all these great complications * * * * truly I was sorry I had come to him. All the same, to give him courage and good hope, I told him I would soon set him on his legs by the Grace of God, and the help of his physicians and surgeons, (as Sir William Osler would call them 'useful supernumeraries')."

"Having seen him, I went a walk in a garden, and prayed God to show me his grace * * * * to fight such a complication of diseases. They called me to dinner. I came into the kitchen, and there I saw, taken out of a great pot, half a sheep, a quarter of veal, three great pieces of beef, two fowls and a very big piece of bacon, with abundance of good herbs; and then I said to myself that the broth of the pot would be full of juices, and very nourishing.

"After dinner, we began our consultation, all the physicians and surgeons together * * * *

I began to say to the surgeons that I was astonished that they had not made incisions in M. le Marquis's thigh, seeing it was all suppurating, and the thick matter in it very fetid and offensive, showing that it had long been pent up there; and that I had found with the probe caries of the bone, and scales of bone, which were already loose. They answered me: 'Never would he consent to it,' indeed it was near two months since they had been able to get leave to put clean sheets on his bed; and one dared scarce touch the coverlet, so great was his pain. Then I said: 'To heal him, we must touch something else than the coverlet of his bed.'

"To restore the warmth and nourishment of the body, general frictions must be made with hot cloths, above, below, to right, to left, and around, to draw the blood and vital spirits from within outward, (fomentations), * * * * for the bed sore, he must be put in a fresh, soft bed, with clean shirt and sheets. * * * * Having discoursed of the causes, and complications of his malady, I said we must cure them by their contraries; and must first ease the pain, making openings in the thigh to let out the matter. * * * * Secondly, having regard to the great swelling and coldness of the limb, we must apply hot bricks around it, and sprinkle them with a decoction of nerval herbs in wine and vinegar, and wrap them in napkins; and to his feet an earthenware bottle filled with the decoction corked, and wrapped in cloths. (See the superstition of innate qualities). Then the thigh and the whole of the leg must be fomented with a decoction of sage, rosemary, thyme, lavender, flowers of chamomile, and melilot, red roses boiled in white wine, with a drying powder made of oak-ashes and a little vinegar, and a half a handful of salt, (sounds like some of the patent remedies we read about in the papers these days). * * * * Thirdly, we must apply to the bed sore a large plaster made of the desiccative red ointment and of Unguentum comitissae, equal parts, mixed together, to ease his pain and dry the ulcer; and he must have a pillow of down to keep all pressure off it * * * And for the strengthening of his heart, we must apply over it a refrigerant of oil of water lilies, ointment of roses, and a little saffron, dissolved in rose-vinegar and treacle, spread on a piece of red cloth. For the syncope, from exhaustion of the natural forces, troubling the brain, he must have good nourishment full of juices, as raw eggs, plums, stewed in wine and sugar, broth of the meat of the great pot * * * * the white meat of fowls, partridges' wings minced small and other roast meats easy to digest,

as veal, kid, pigeons, partridges, thrushes, and the like with sauce of orange, verjuice, sorrel, sharp pomegranates; or he may have them boiled with good herbs, as lettuce, purslain, chicory, bugloss, marigold, and the like. At night he can take barley-water with juice of sorrel and of water-lilies, of each two ounces, with four or five grains of opium, with the four cold seeds crushed, of each half an ounce; which is a good nourishing remedy and will make him sleep. His bread to be farmhouse bread neither too stale nor too fresh. For the great pain in his head, his hair must be cut, and his head rubbed with rose-vinegar just warm, and a double cloth steeped in it and put there; also a forehead cloth of oil of roses and water-lilies and poppies, and a little opium and rose-vinegar with a little camphor, and changed from time to time. Moreover, we must allow him to smell flowers of henbane and water-lilies, bruised with vinegar and rose-water, with a little camphor, all wrapped in a handkerchief, to be held sometimes to his nose. * * * * * And we must make artificial rain, pouring water from some high place into a cauldron, that he may hear the sound of it; by which means sleep shall be provoked on him. As for the contraction of his leg, there is hope of righting it when we have let out the pus, and other humors, pent up in the thigh, and have rubbed the whole knee with ointment of mallows, and oil of lilies, and a little eau-de-vie, and wrapped it in black wool with the grease left in it; and if we put under

the knee a feather pillow doubled, little by little we shall straighten out the leg. * * * * * This, my discourse * * * * *.”

“The consultation ended, we went back to the patient and I made three openings in his thigh * * Two or three hours, I got a bed made near his old one, with fair white sheets on it; then a strong man to put him in it, and he was thankful to be taken out of his foul stinking bed. Soon after, he asked to sleep; which he did for near four hours * * * * *.”

“The following days, I made injections into the depths and cavities of the ulcers, or Aegup-tiacum dissolved sometimes in eau-de-vie, other times in wine. I applied compresses to the bottom of the sinus tracks, to cleanse and dry the soft spongy flesh, and hollow leaden tents, that the sanies might always have a way out; and above them a large plaster of Diacalcithea dissolved in wine. And I bandaged him so skillfully that he had no pain; and when the pain was gone, the fever began to at once abate. Then I gave him wine to drink, moderately tempered with water. * * * In one month I got him into a chair * * * * * and in six weeks to stand a little on crutches * * * * *.”

Do we today deal with an infection much differently? This was written at the end of a long busy life, whose enormous experience lent force to his descriptions, conclusions, and advice. When I rose from the reading, I was convinced that here indeed was a man.

52nd Annual Meeting

Battle Creek
Calhoun County

September 4-5-6
1917

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, November 7, 1916

The President, CARL D. CAMP, M.D., in the Chair

Reported by REUBEN PETERSON, M.D., Secretary

(a). A CASE OF A DIABETIC WITH UMBILICAL HERNIA, COMPLETE LACERATION OF THE PERINEUM, AND FISTULOUS OPENINGS IN THE REGION OF THE RIGHT LABIUM.

(b). A CASE ILLUSTRATING THE ADVANTAGES OF THE REMOVAL OF OVARIAN CYSTIC GROWTHS WITHOUT ASPIRATION.

REUBEN PETERSON, M.D.

(From the Obstetric and Gynecologic Clinic, University Hospital, Ann Arbor, Michigan).

(a). *A Case of a Diabetic with Umbilical Hernia, Complete Laceration of the Perineum, and Fistulous Openings in the Region of the Right Labium.*

This patient is 53 years of age and married. The family history is negative. She has always had good health until a short time ago when she began to have pains in her back and hips which she thought were rheumatic. Her menstruation began at the age of 10 and was regular until her marriage at the age of 17. After the birth of her first child she did not flow for ten years and became very fleshy. She passed through the menopause five years ago. Her first two children were stillborn and she was lacerated into the rectum at the first confinement. She had inflammation of the womb at this time for four or five months and has had incontinence of feces ever since.

She comes to the Hospital for a tumor at the navel, an abscess of the right labium and inability to control the bowel movements. Lately her womb has come down so that at times she can see it. About twenty-three years ago, while carrying a child, a small tumor developed at the navel and has gradually grown larger. Six

weeks ago an ulcer formed on the top of this tumor, but except for this, there are no other symptoms, not even pain. Last July she developed an abscess on the right side of the external genitals which broke and discharged a lot of foul pus. The discharge has decreased and now is composed of blood with very little pus.

Examination shows the patient to be of large frame and well nourished. The abdomen is negative throughout except for a mass the size of a coconut which protrudes through an umbilical opening two inches in diameter. (Fig. 1.) About one-third of the upper surface of the hernia is covered by a skin slough, which is separating at the edges. The mass is soft, dull on percussion and cannot be reduced through the hernial ring.

In the upper and outer side of the right labium majus is a brownish, indurated area, in the center of which are two small fistulous openings discharging a thin purulent, bloody fluid. Another indurated area and another fistulous tract lie between the labium and the crease of the thigh. The cervix prolapses through the vulvar opening when the patient strains, the external os being bathed in fecal matter coming from the anal opening which has been torn through the sphincter and some two inches up the bowel.

The ulceration of the skin about the hernial mass is unusual in my experience. The hernia is not strangulated and there is no particular tension to account for the sloughing. In all probability no bowel is in the protrusion since it is dull on percussion and therefore probably the sac contains adherent omentum. In my opinion, since there is no history of trauma in connection with this hernia, the necrosis is probably due to a general condition, diabetes,

which an examination of the urine showed the patient to be suffering from.

In fact I selected this case tonight not because of the umbilical hernia which is not uncommon, nor on account of the complete rupture of the perineum or prolapse of the uterus, conditions which are too frequently met with in the Clinic, not even for the abscess in the external genitals which is rather uncommon. I report the case not because of these surgical conditions, any one of which demands operation, but to elicit a discussion of whether any operation is justifiable on this patient who is suffering from diabetes. Fortunately we have with

greater danger to life from operating in an advanced case of diabetes. During the past twenty-five years I have erred by not realizing the dangers of operating upon patients with apparently mild cases of diabetes.

In any case, if Dr. Foster says it is safe to operate I shall try to relieve the patient of the suppurating areas in the external genitals and postpone the operations for the other surgical conditions to a later date.

NOTE. About ten days after the demonstration of this patient before the Society, with Dr. Foster's sanction, under ether the fistulous tracts in the right labium and groin were opened

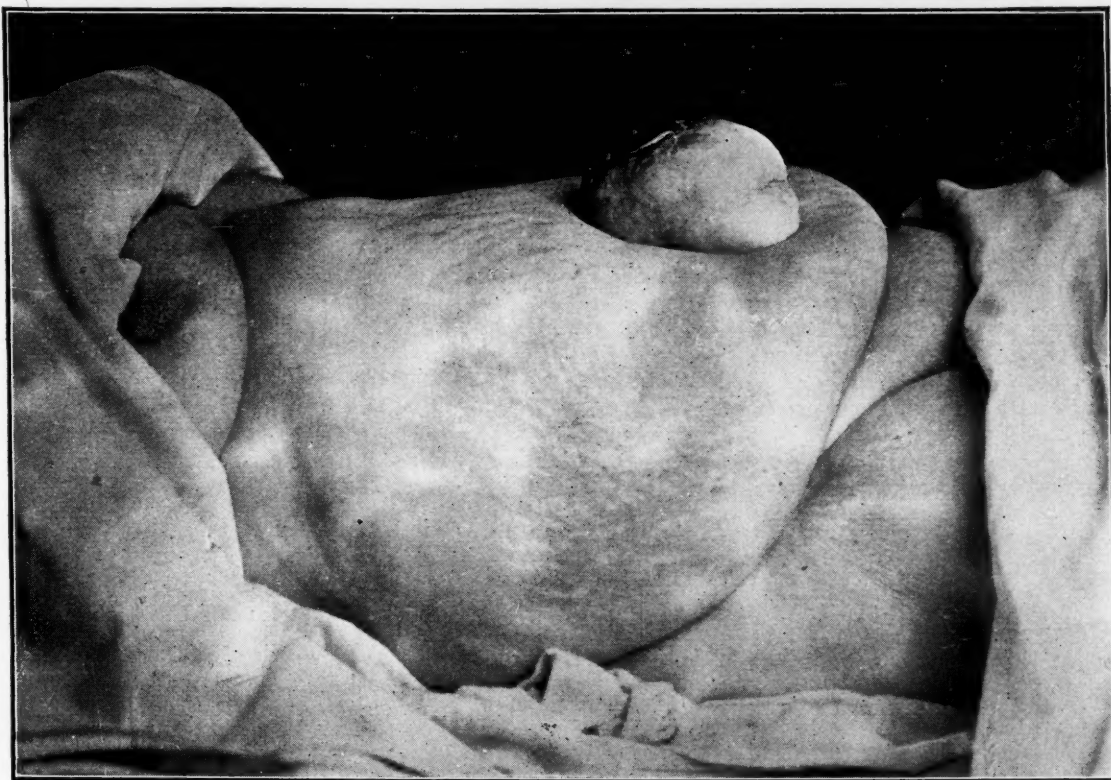


Fig. 1. Large umbilical omental hernia with areas of skin sloughing, due to a diabetic condition.

us a man who is particularly interested in diabetes, and who is in a position to tell us surgeons when and when not to operate on diabetic patients. So I shall leave the discussion of the diabetic condition to Dr. Foster.

There is a great responsibility resting upon the surgeon in regard to operations upon diabetics and in elective operations such as this patient would have. The internist should be called in wherever possible. The patient has had the umbilical hernia and the ruptured perineum for a long time and really does not come to the Hospital for the relief of these conditions so much as to be cured of the fistulous tracts in the external genitals. Even this latter condition possibly could be endured if there was

up and a considerable amount of dark, unhealthy granulation tissue removed. The exposed areas were then packed with gauze. Altogether the patient was not under ether more than fifteen minutes.

The patient did badly from the time of the operation until her death twenty-seven days later. The curetted area never showed any signs of healing. Two weeks after the operation signs of inflammation appeared in the suprapubic fat fold where the skin became brawny, indurated and reddened. The area spread to the flanks where the skin became necrotic in places. Finally the patient became stuporous with the pulse and temperature markedly elevated until death.

Autopsy showed in addition to the labial abscess, extensive inflammation of the abdominal wall even involving the pubic bone.

Inasmuch as death was due to the diabetic condition, Dr. Foster has been asked to append a note of explanation to his discussion of the case.

(b). *A Case Illustrating the Advantages of the Removal of Ovarian Cystic Growths Without Aspiration.*

The second case I wish to report is that of a

gastrium by a growth for the most part cystic, although in places denser portions can be felt. (Fig. 2). The tumor rises almost perpendicular from the pubes, reaches its highest point at the umbilicus and slopes evenly to the ribs and flanks. The diagnosis of a multilocular ovarian cyst is borne out by palpation and percussion and confirmed by the results of vaginal examination.

October 20, 1916, the abdomen was opened by a median incision, 15 inches long, reaching

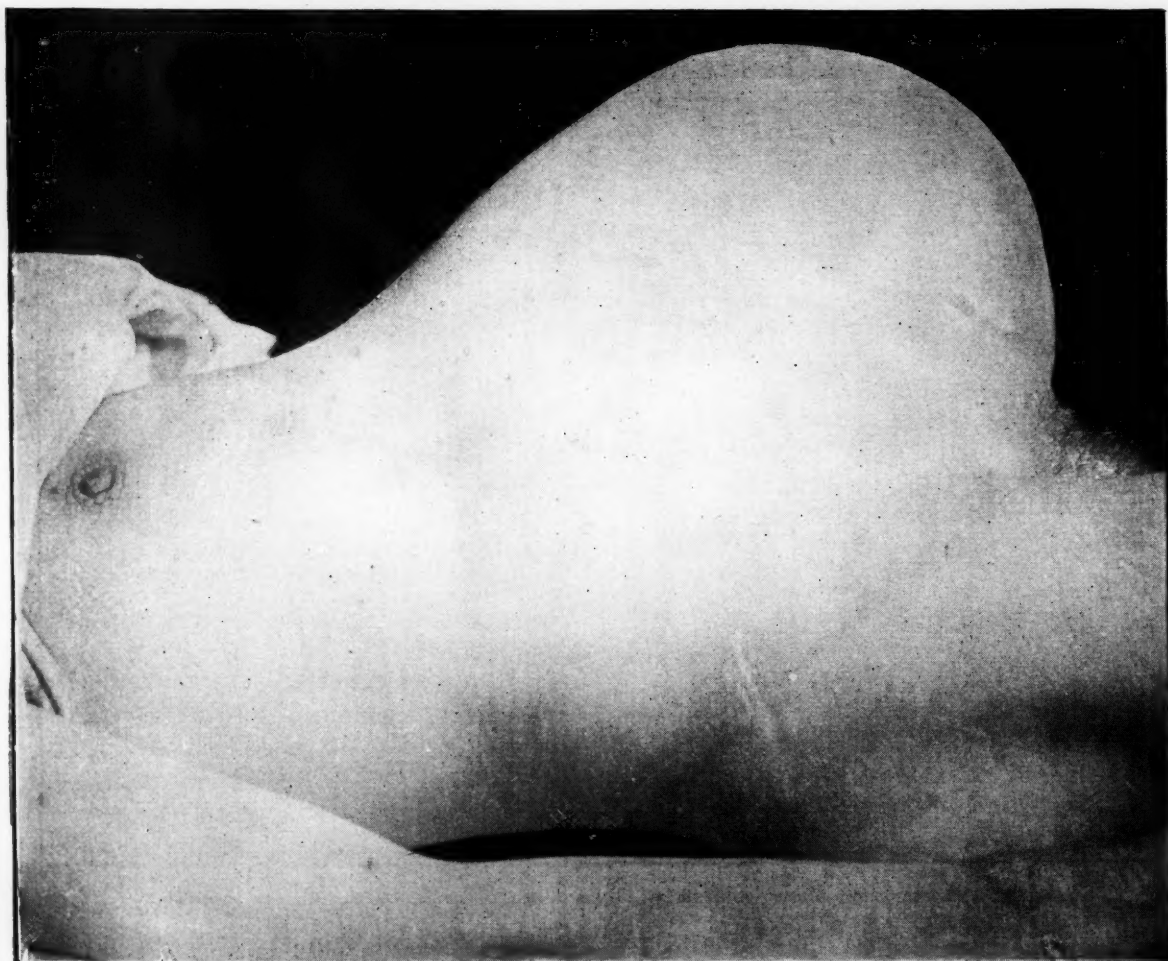


Fig. 2. Large multilocular cystadenoma of the ovary, weighing 24 pounds, removed without aspiration through a long median incision.

woman of 49, who comes to the Hospital for an abdominal tumor which she first noticed about a year and a half ago. When first observed it was in the median line and has gradually grown until now she is short of breath and has distress in the epigastrium. At times she has pain and is unable to sleep. During the last few months she has lost twenty pounds and is much weaker than she was a few weeks ago.

Examination shows the patient to be of average build and not emaciated. The abdomen is markedly distended from the pubes to the epi-

from the pubes to several inches above the umbilicus. A large multilocular cyst of the left ovary was delivered through this long incision, the moderately long and thick pedicle clamped, and the cyst removed without rupture. The other details of the operation need not be gone into. The patient was not shocked by the operation, made an uninterrupted recovery and left the Hospital well. At this time the incision measured only five and three-fourths inches so much had the distended abdominal wall contracted. The tumor weighed twenty-four pounds,

was an ordinary multilocular cystadenoma without any signs of malignancy.

I wish particularly to discuss the method of operating adopted in this case; in fact this is the reason for the report. The incision employed was rather a startling one and should not have been used unless something was to be gained by it, since undoubtedly, beyond a certain length, the larger the incision the more is the danger of subsequent hernia. The reason for the long incision employed in this Clinic for the past two or three years for the removal of large ovarian growths is for the purpose of protecting the uncontaminated peritoneum from the contents of the growths, since through the long incisions the cystic growths can be removed intact. We believe that the old method advocated for so many years of a small abdominal incision and aspiration of the contents of the cyst is an unscientific procedure and is a relic of the past when a small incision, because of the dangers of infection, was less dangerous than a large one. It is not true as, stated in the textbooks, that a cyst can, as a rule, be aspirated and the peritoneum be uncontaminated. In 1913, Bland called attention to the reasons for removing ovarian growths intact and these reasons seemed so logical that since that time I have made the incision large enough to remove the growth without aspiration.

If, then, there be a probability of contaminating the peritoneum through aspiration of the cyst contents, we are in duty bound to remove the cyst intact because we can not tell beforehand whether the cyst be malignant or not. Careful microscopic examination of ovarian growths shows that nearly 50 per cent. are malignant. Hence we should be careful not to contaminate the peritoneum with a fluid which may give rise to malignant metastases through transplantation. At least, we ought to use the same, if not extra, precautions here against transplantation that we do in removing a cancerous uterus or a cancerous breast.

It will not always be found possible to remove large cysts intact even with the longest incisions. Thin walled cysts adherent to the abdominal wall and intraabdominal organs may rupture during removal even with the greatest care. However, these are the exceptions, not the rule.

DISCUSSION.

DR. NELLIS B. FOSTER: The case that Dr. Peterson has presented is very interesting from two points of view. Is the glucosuria due to an infection, or is it an infection in a diabetic? There are a few individuals apparently predisposed to develop in consequence of an infection, a spontaneous glucosuria. This is particularly prone to be the case with

gynecologic infections; there develops in consequence of some infection of the genital tract, a glucosuria. It is an interesting fact but is of no particular use to us because we cannot differentiate such cases from individuals who are primarily diabetic unless there is a history of diabetes previous to the infection. The only thing that will clear up the case which Dr. Peterson has presented is to observe her after she has been operated upon and find out whether she can return to a normal diet without glucosuria. That is one point to be borne in mind. If that is not the case, then she is a diabetic with a surgical condition which should be operated upon. There arises then the question when can an operation be undertaken on a diabetic individual, or what are the conditions which must be fulfilled in order that operation may be conducted safely? Surgeons quite properly fear to operate upon diabetic patients. The reason is that older individuals who have diabetes and develop some condition which is surgical are apt in the first place to develop infections following the operation. They are more prone to infections than ordinary individuals are. When an infection occurs in a wound in a diabetic individual it is very apt to go on to a stage of necrosis which we call gangrene. In the younger individuals an operation is very prone to be the beginning of a severe acidosis if acidosis is not already established and many of these patients die in coma. So we have two dangers, infection and coma in two quite different classes of patients. The reason for the danger of infection is perfectly evident if one stops to think what the diabetic state really is. Sugar appears in his urine on account of an increase of sugar in his blood. On account of the increase of sugar in his blood we have an ideal culture medium. The pyogenic cocci will not grow in cultures without sugar. They grow best in a considerable amount of sugar. The average per cent. of sugar in normal blood is .08 to .15. The mild diabetic has a blood sugar of .18 to .22 and above. Then there is another source of danger that we are apt to overlook. If an individual has a moderate degree of nephritis his kidney becomes less permeable to sugar as well as to other substances. So that you may find now and then a diabetic without any sugar in his urine. I recall very distinctly a case in point which is worth mentioning. A surgeon operated upon a person apparently in fairly good health. The operation was an appendectomy. The wound was not infected apparently but it refused to heal. It was gray and began to slough. The case was in the hospital and I had opportunity to see the patient. On taking a very careful history one learned that some fifteen years before sugar had been detected in the urine for a couple of weeks at a time and then it disappeared. That led us to make an examination for blood sugar. We found that this individual had in spite of a low diet, a blood sugar of .24 per cent., practically double the normal. By suitable diet the blood sugar was brought to normal and the wound healed promptly. Often as soon as the blood sugar crosses the normal line you can see in twenty-four or forty-eight hours a difference in the appearance of the wound.

This patient Dr. Peterson has transferred to us with the question, can the patient be operated upon? Not at the time when she was first seen, surely. How can we render her a safe operative risk? It

is simply a point of reducing the blood sugar until it is near normal and that can be done by diet. She represents a case of mild diabetes. Upon a slight diet restriction the sugar disappeared from the urine and today her blood sugar is .15 per cent. which is the high normal. In three days more she will be a perfectly safe operative risk.

With cases such as this one of Dr. Peterson's there is seldom any difficulty in effecting such control of the diabetes that one can almost guarantee a good surgical result. It is never safe in my opinion, to attempt a surgical operation so long as there is sugar in the urine and it is hazardous when the blood sugar is high even though there may be no glucosuria.

There is one class of surgical complication in mild diabetes which is very difficult to handle. I refer to infections of the cellulitis type. Much depends of course on the virulence of the invading organism but when with a diabetic whose disease has been of a mild type this complication occurs the diabetes seems at once to become severe. I have seen fasting attempted under these circumstances with no effect on the glucosuria and the rapid development of grave acidosis. These patients frequently die in coma. Here the surgical treatment is of primary consideration and the infected area must be opened freely.*

Diabetic patients are liable of course to the same surgical disorders as the rest of us and the question that confronts a surgeon under these circumstances is when can he operate with relative safety and when is the risk prohibitive. I have already said that with any case there is danger so long as there is glucosuria. With younger patients acidosis is even a more serious factor for consideration. The best test, quickly applied, is an estimation of the alkali reserve in the blood. If this can not be done then one must know the amount of ammonia excreted in the urine, which is also a test of the degree of acidosis. If the ammonia is near four grams for twenty-four hours then an operation would almost surely precipitate diabetic coma. With one gram of ammonia there is no prohibitive risk but above two grams a surgeon should operate only in an emergency and a very high degree of skill would be required during the postoperative period to control the acidosis.

Surgeons have a well founded timidity about operations on diabetic patients. A diabetic can usually be treated so that the risk of an operation is not great, but it demands no little study in each case and some knowledge of metabolism; and this preliminary treatment is impossible outside of hospitals equipped with laboratories for precise chemical estimation.

*Note. The patient who was the subject for this discussion died without sugar returning in the urine, and the blood sugar remaining within normal limits. The autopsy revealed that the infected areas were much deeper and more extensive than were indicated during life. Since suppurative areas appeared after the first operation it is presumable that extension occurred, probably from the bone focus into the abdominal muscles. The age and general condition secondary to long standing diabetes of course favored this. With infection so extensive as this was shown to be at the autopsy, recovery would not be expected in a subject of any chronic disease.

A CASE OF TRANSVERSE MYELITIS OF THE CERVICAL REGION OF THE CORD.

ALBERT M. BARRETT, M.D.

(From the Psychiatric Clinic, University Hospital, Ann Arbor, Michigan).

The case is that of a girl 15 years of age who was admitted to the Psychopathic Hospital on September 1, 1916.

She came of a family of unusually bad nervous and mental constitution. Her father and grandfather had both been insane and the mother was of low mental development. There were eight other children in the family, all of whom were regarded as being mentally backward.

As a child, our patient had been sickly and backward in both physical and mental development. Menstruation first appeared at the age of 14, and from that time on she was irritable and complaining. At the age of 15 she had only reached the fourth grade in school. Following the death of her father, family circumstances made it necessary to arrange for the care of the children and on account of the very apparent mental backwardness of our patient she was sent to this institution.

The physical examination showed little that was pathologic. The thyroid was a little enlarged. There was no enlargement of the cervical or inguinal glands. The lungs showed no abnormalities on examination. The heart was not enlarged and the valvular sounds were normal. There were complaints of pain and tenderness in both inguinal regions and on pressure this became increased. There was some tenderness over the roots at the sixth dorsal and first lumbar vertebrae.

Neurologic examination showed keen sensibility to touch, pain and temperature throughout the body. All of the tendon reflexes were normal in their reaction. Aside from fine tremors of the fingers and tongue, the neurologic examination was entirely normal.

The important psychiatric condition present was a low grade of mental development. The Yerkes-Bridges point scale examination showed her to have a mental age of but eight years.

There was little further of interest in the patient aside from occasional complaints in the left iliac region, until Sept. 15 when she complained of headache, epigastric distress, and stiffness of the neck. Constipation was marked, there having been no bowel movements for four days. In the afternoon her temperature rose to 101.4°. On the 16th the temperature, early in the morning, was 99.5° and it continued moderately high during the day, reaching 104°

in the afternoon. Bathing did not reduce the temperature. She complained much of soreness in the neck. The cervical trapezius was in a state of tonic contraction. The head was somewhat retracted and the back stiff. Late in the afternoon it was impossible to flex the neck. The knee jerks could not be obtained. There was no Clonus, Babinski or Kernig's sign. Nowhere was there any muscular paralysis. A lumbar puncture at this time showed increased pressure. The fluid was clear and there were eleven cells per cubic millimeter. The globulin was not increased. The Wassermann reaction was negative. The colloidal gold test of Lange gave a slight change in color in the first four tubes. There was a leucocytosis of the blood of 14,700. She was referred to the Department of Otolaryngology, which reported that there was pharyngitis and septic tonsils, but not enough to warrant the symptoms. On the 18th there was a complaint of a feeling of stiffness in the legs. There was a marked diminution of the power of the muscles of the legs. Babinski reflex could be occasionally obtained but was soon exhausted.

On the 19th there was a general agreement that the condition present was a transverse myelitis of the cervical region, but of undetermined etiology. On this date she was transferred to the Department of Internal Medicine.

Abstracts of the notes made in that department are embodied in the following comments: During the 19th her temperature continued high; during the evening it reached 105°, the pulse was around 120, and the respirations were about 35. Generally, she was clear in her comprehension but somewhat stuporous. The pupils were small, equal, and reacted poorly to light. Extraocular movements were normal. The tongue was dry and protruded straight. She complained of pain in the neck on moving her head. She raised both arms with difficulty. There was flaccid paralysis of the triceps of both arms, and to some extent of the shoulder group. She was insensitive to pain on the inner side of the forearm, but felt the pin clearly on the outer side. Respirations were of the abdominal type. There were signs of an inactive lesion of the left apex. The abdomen was distended. The bladder was filled up to the hypogastrium. The legs were flaccid and there was complete paralysis of the legs and feet. All tendon reflexes of the lower extremities were absent. There was a complete loss of appreciation of pain on the back below the level of the second dorsal spine, and in front, below the

level of the distribution of the second dorsal nerve.

Several attempts at lumbar puncture were made. There is no reason to doubt but that the needle entered the canal, but no fluid could be obtained.

There was no improvement in the symptoms during the next two days. On the 22nd the temperature by rectum registered on one occasion 107.5°. The pulse was 170. She complained of slight photophobia.

On the 23rd, there was noticed an increasing cyanosis of the face, hands and trunk. The breathing was entirely abdominal and irregular. Her consciousness was much clouded and there was no response to questions. There was no evidence of swelling on either side of the neck. The right pupil was widely dilated and the left was slightly contracted. Shortly before death this pupil dilated to the size of the right.

Death occurred on the 23rd of October, eight days after the beginning of the acute illness.

An autopsy was held a few hours after death. The examination of the internal organs showed slight adhesions around the region of the left apex. There were also adhesions in the region of the spleen, stomach and liver. Otherwise there was little notable for this discussion.

As the cut into the back was made for the removal of the cord one came into a pocket of pus which flowed in from the left trapezius muscle and was traced upward among the muscles of the neck on the left side but its source was not determined. On opening the canal the pus flowed into the canal and obscured the relations. One noticed in the lower lumbar dorsal region that a considerable portion of the dura was hemorrhagic. Otherwise there were no changes of a gross nature in the dura. As the dura was opened the cord in the cervical region was seen to be larger than normal, so large that it filled the arachnoid space at about the level of the fourth dorsal segment. In the examination of the cord there occurred a small ooze of what probably was softened spinal substance through the membranes.

The brain showed nothing pathologic in the gross. The cord was taken to the laboratory and fixed in formalin and prepared for further technical processes by sectioning. In the first preliminary examination of the cord one found in the regions of the fifth, sixth and seventh cervical segment that the cord was swollen and distinctly softened and on cutting one could see evidences of marked changes and hemorrhage. The microscopic examination of the material has proven of great interest. One

finds that at the region of the fifth and sixth cervical segment there is what might be called a degenerative myelitis. The cord is very much swollen; the myelin has disappeared in large patches from around the fibers of the cord and many of the axis cylinders have gone to pieces. One sees in places small hemorrhages and the differentiation between the gray and white substance of the cord is indistinct. There is a marked proliferation of the neuroglia and marked involvement of the gray substance of the cord by a very severe degenerative process. One sees numerous compound granule cells or epithelioid phagocytes filling the vacuoles left by the absent myelin and around the blood vessels. This condition can be seen for some length through the cord. One sees traces of this through the fifth and sixth cervical segments and almost to the first dorsal segment. In a preparation by Marchi's method you will see in the posterior horns a blackened area in the center which marks the position of the softened part of the cord. The remainder of the cord is rather porous.

The process in its extent is a very complete transverse myelitis. When one examines the segments below the cervical region little is found. There is some hemorrhage in the dorsal region. In the lumbar region there is practically no involvement. There is no meningitis, perhaps an early proliferation of the cells of the pia.

There is adhering to the outer layer of the dura a necrotic mass in part made up of pus, but chiefly of masses of lymphocytes, phagocytes and epithelioid cells, cells which one sees in tuberculous inflammations.

Histologically in the laboratory we were able to come to the conclusion that the type of process present in the dura was of the type seen in tuberculosis or syphilis. We believed that the process was of a tubercular peripachymeningitis.

From the autopsy, pieces of the bodies of the vertebrae were sent to the Pathological Laboratory, and recently Professor Warthin informed us that in these he found small caseous areas, which he affirms are due either to tuberculosis or syphilis.

This confirmation of our own diagnosis of a tubercular process, from the character of the changes in the tissues of the cord, clears up the pathology in a very interesting and instructive manner. There was apparently a tuberculosis of the vertebrae of the cervical region, with a purulent process extending from this out into

the tissues of the adjacent muscles of the neck and a more recent extension of the process inward to the dura mater, producing a compression myelitis of the cord.

There are a number of interesting points about the case. The first point is the matter of diagnosis. We had a young girl coming in at the time when one was hearing much of poliomyelitis. At first the knee jerks were present. Later, the knee jerks were gone and there was a temperature and indefinite nervous symptoms. However, the very complete picture of a transverse myelitis rather spoke against poliomyelitis. Furthermore, the sensory disturbances, which rapidly developed were against that diagnosis. Another interesting point in the case was the absence of knee jerks in a transverse myelitis. We are accustomed to believe that where there is a compression myelitis a spastic condition results with increased knee jerks. However, we know from a rather large number of examples in the literature that in lesions of the cervical cord the usual picture is that of a flaccid paralysis with absence of reflexes in the legs. Any reason for this is purely theoretical. No explanation holds against criticism. It is sometimes said that there is in addition to the high focus, a focus of degeneration in the region of the nerves to the quadriceps femoris. However, in this case the nerves in this region were normal.

The condition is a compression myelitis, and yet there does not seem to have been much compression. That opens a very interesting line of thought as to how this does occur. Here we have a softening of the cord through a considerable area which was not due to an infection. Practically it was a dropsical condition of the cord and subsequently a softening or breaking down of the tissues. Such changes are often seen in compression myelitis. And yet they are not due to the direct contact or impinging of a foreign substance upon the cord itself. The cord is more or less easily adaptable to foreign bodies in the canal. It is, however, probably due to some changes which this compressing substance has upon the circulatory structures in the epidural spaces. We have in these spaces a very rich venous plexus carrying off blood from the cord. It has been shown that if anything interferes with this venous arrangement there very quickly occurs softening of the cord underneath. It would seem that this theory quite adequately explains the conditions in this case. It is rare to have a case develop so completely while under observation.

DISCUSSION.

DR. NELLIS B. FOSTER: The case was particularly interesting to all of us because of the diagnostic problem involved. It is one of the most confusing cases which I have seen, coming at a time when we were all of us looking for cases of anterior poliomyelitis. This girl who was a proper subject, the first few days when she was under observation might well have been a case of poliomyelitis. After a couple of days of observation it was quite evident that it could not be anterior poliomyelitis. Then one thought of an atypical tuberculous meningitis. We made an anatomic diagnosis of transverse myelitis but we could not make an etiologic diagnosis.

DR. BARRETT: The question was asked, "Why no fluid was obtained by the second and later lumbar punctures." It does not seem possible to answer this with any certainty. It might be that the extreme dropsical condition of the upper segments of the cord may have taken up some of the fluid of the canal.

One may speculate as to why the tendon reflexes of the lower extremities sometimes disappear in lesions affecting the high cervical regions. A very suggestive theory for this is that where the paths to and from the brain are cut off there may be a marked loss of tonus essential for reflex activity, which is preserved through the flow of nervous energy from the brain to lower levels. This is in harmony with the fact that in this case the Babinsky reflex was obtained a few times and then lost.

A CASE OF MULTIPLE SCLEROSIS DEVELOPING DURING AN ACUTE PULMONARY TUBERCULOSIS.

THEOPHIL KLINGMANN, M.D.

(From the Neurologic Clinic, University Hospital, Ann Arbor, Michigan).

The patient, a girl, 16 years old entered the University Hospital on July 18, 1916, complaining of difficulty in walking and talking and blurring of vision. Further she observed that her eyes turned in, all of which developed about the middle of June, 1916. In May of the same year she had a severe attack of measles from which she made a good recovery. About two weeks after her recovery from the measles she developed a severe "cold" with severe headache and was in bed for two weeks, the headache continued for one week, during which time there was nausea and vomiting. At the end of two weeks she was unable to walk without support and she had a speech defect, blurring of vision and paralysis of the internal recti. About ten days later she began to improve; one of her eyes resumed its normal position, the speech defect was less pronounced and she could walk better but several weeks later she suffered from retention of the urine; there was no incontinence. With the beginning of the present illness there was suppression of the menses.

In the previous medical history it appears that she was ill in December, 1915, when it was thought that she had influenza. She was not confined to bed and made apparently a good recovery at the end of two weeks. A few weeks after this illness she had spells of sleepiness during the day and suffered from more or less headache and backache all of which lasted four or five weeks. In early childhood she had whooping cough and chickenpox.

The family history reveals that the patient had one sister who died in childhood of spinal meningitis following measles and another sister who died of cholera infantum at the age of eight years. She has two sisters living, one has appendicitis and one is suffering from a deformity contracture of the flexors of the left arm and a deformity of one foot which came on after an attack of measles when she was eighteen years old.

The patient was first examined on July 20, 1916, by Dr. Camp and the following notes were made: The patient is well nourished and says she feels well. She has an impediment of speech, not a scanning speech: There are no enlarged glands of the neck, the teeth are irregular but in good condition, the scapulae are scaphoid. There is a slight internal strabismus, the left eye does not rotate outward normally. The pupils are equal and react to light, the left pupil is slightly sluggish, both react normally in accommodation. There is no tremor of the tongue, no paralysis nor atrophy and no paralysis nor tremor of the face muscles. There is a slight intention tremor of the hands more marked in the right. There is no atrophy nor deformity of the hands. In grasping objects she is awkward with both hands, especially with the left. The biceps and triceps jerks are increased but equal on both sides. The knee jerks are present, the right being more prompt. There is an ataxia of the feet. The plantar reflex is normal on both sides.

Ten days later the examination showed some changes; the pupils were prompt to direct light stimulation but the paralysis of the external recti was more marked and the outward excursion of both eyes was limited. There was a horizontal nystagmus on lateral deviation of the eyes. The speech defect was more marked, explosive and halting in type. The hands were more ataxic but there was no change in the gait. The tendon reflexes were all increased with an ankle clonus on the left side but a normal plantar reflex on both sides. Soon after this the patient left the Hospital. She was given small doses of Fowler's solution and elix. phos-

phate of iron, quinin and strychnin. She returned to the Hospital on October 12th much encouraged and rather euphoric. She was still coughing and had some expectoration. The dyspnea was more marked especially on slight exertion and owing to this she was referred to the Department of Internal Medicine. A sputum examination was made but it revealed nothing of importance. The patient had some physical signs of pulmonary disease. The X-ray showed an interesting condition and the report from the Department of Roentgenology is as follows: The lungs are uniformly peppered with small opacities the size of a millet seed, some of them grouped but mostly they are discreet and have all the characteristics of miliary tuberculosis of about the fourth to the sixth week. A greater area shows a slight opacity of the left apex which may possibly represent an older lesion. There are no enlarged thoracic glands.

The neurologic examination at this time was as follows: The pupils react promptly to light and in accommodation. There is marked horizontal nystagmus but no extraocular palsy. The tongue is protruded straight and without a tremor; there is no facial palsy. The movements of the hands are ataxic especially the right. The station and gait are ataxic. The biceps and triceps jerks are brisk, the knee and Achilles jerks are equal and about normal. The plantar reflex is not obtained on either side. There is no objective disturbance of sensation of any kind.

Ophthalmoscopic examination, July 24, 1916. There is a slight paling of the temporal portion of the disc of the right eye, the disc in the left eye is hyperemic, the retina is also hyperemic. There is paralysis of the left external recti.

Serologic and chemical examination of the spinal fluid, July 22, 1916. The spinal fluid is clear and colorless and the number of cells normal. Nonne-Apelt phase I negative, phase II negative. The reducing substance is slight. Wassermann reaction negative. The Wassermann reaction on the blood serum is negative.

The case is of interest, first, because repeated neurologic examinations were possible at intervals of from two weeks to two months showing changes in the clinical picture. Most of the symptoms were transient, some of them became permanent while others disappeared entirely. Second, the physical signs of pulmonary disease were slight, while the X-ray picture showed an extensive process in both lungs. The ophthalmoscopic examination was in accord with the neurologic condition. Third, the neurologic

disease developed with the pulmonary tuberculosis. It is possible that the first illness in December, 1915 was tuberculosis, at least the X-ray picture would lead one to think so from the older lesion. Although slight but definite signs of a nervous disease followed it is also possible that this condition began at that time and that the illness coming on a month later was only an exacerbation of the already developed conditions and that the attack of measles was the inciting cause.

Last year I reported three cases of multiple sclerosis which came to autopsy, all of them having definite signs of tuberculosis in the lungs. I have had one since this report in which the autopsy revealed a pulmonary tuberculosis.

DISCUSSION.

DR. D. MURRAY COWIE: I should like to recommend the advisability of running some of the chemical tests, the diazo and permanganate tests.

DR. MARK MARSHALL: I had the opportunity of examining this patient. The sputum was examined and found to be negative so far as tubercle bacilli are concerned. The physical signs in the lungs were just what would be expected from the examination of the X-ray plate. There were crackling râles of every size in every part of the chest and to some extent there were piping râles. If the patient had remained longer we would have made more sputum examinations using the concentration method in the hope of finding tubercle bacilli.

DR. KLINGMANN: The tests Dr. Cowie spoke of were not made, since the patient left the hospital before her examination was completed.

TREATMENT OF DIPHTHERIA CARRIERS. REPORT OF 125 CASES OF DIPHTHERIA.

D. MURRAY COWIE, M.D.

(From the Pediatric and Contagious Disease Clinic, University Hospital, Ann Arbor, Michigan).

Dr. Cowie read a paper on the above subject. He reported a series of 125 cases of diphtheria, seventy-nine of which he treated by the use of the various methods proposed for the elimination of the diphtheria bacillus from the throats of diphtheria patients and forty-six cases by the vigorous use of the kaolin treatment. The results were the same with the kaolin treatment as with the other methods employed. He also reported seventeen cases of diphtheria in which tonsillectomy and removal of adenoids were employed to clear them up. In 86 per cent. of these cases the throat and nasal passages became negative to the Klebs-Loeffler bacillus within a comparatively few days; as soon as the inflammatory reaction following the operation was over.

Dr. Cowie called attention to the fact that

all cases of diphtheria terminate in what may be called a carrier period, because there is almost invariably a certain number of days, after the patient has recovered from the acute infection, during which the bacilli persist in the nose or throat. Accordingly, he classified carriers as short and long carriers. He pointed out that long carriers are often individuals who have never had the disease themselves.

The important points brought out in the paper are: 1. That no case should be discharged from quarantine until at least three consecutive negative cultures, very carefully taken, are obtained; better four. He referred to the paper of Dr. Walthall on the method of taking special cultures in these cases, given before this Society last spring. The idea of this thorough examination is to terminate all short carriers. 2. That for all refractory cases and bona fide instances of long diphtheria carriers tonsillectomy and removal of adenoids are the most efficient methods of eradicating diphtheria organisms from the upper respiratory passages. The operations are unattended by serious results. No cases of reinfection have occurred. In almost all cases of diphtheria the tonsils are involved. In most carriers the organisms are confined to the tonsils or adenoids.

DISCUSSION.

DR. JOHN A. WESSINGER, City Health Officer: It does not seem to me that we should let this paper pass without saying a word upon the subject. I cannot help but feel extremely interested in the work which Dr. Cowie has done from the standpoint of epidemiology as well as the standpoint of public health. The problem of the disposition of the carrier of disease is an important problem and a puzzling one. I am aware that a great deal of work has been done along this line with the diphtheria carrier. I am glad to be in accord with what Dr. Cowie has said upon this subject. I am glad to hear that so much has been accomplished by the use of kaolin. I have given some attention to this subject during the last two or three years and I had rather formed the impression that the successful route of elimination of the carrier of disease would be a biologic one or by means of antagonistic bacilli. Two or three years ago we did some work along these lines. Previous to that time one of our schools in the city was perennially afflicted with diphtheria, three or four cases each year in that particular school. We made an examination of the throats of 150 children and found twenty-one diphtheria carriers. That work was done previous to the kaolin method and we felt at that time that we had attained a measure of success at least with the lactic acid bacillus. I notice that since that work has been done we have had no more trouble in that school. While the work done by Dr. Cowie and his associates and the men in Chicago seems to be in favor of the kaolin methods, there are others who seem to discredit this method. So it still seems to be in

an experimental stage. I believe we have been in the habit of discharging our quarantine cases altogether too early. I am glad to know that it requires three negative cultures in this institution before cases are dismissed and I wish it might be four. All of us who have had experience with diphtheria carriers know that they are tonsillar. I have always supposed that it would be very, very difficult to reach bacilli lodged deeply in the crypts with any chemical or mechanical means less than a total extirpation of the tonsil. For that reason I can see why it would be a good thing to do a total extirpation of the tonsils as well as the adenoids in these patients. I believe that is the best method of getting rid of the carriers. I hope that the treatment with kaolin will work out successfully.

While I am on my feet I wish to make a slight digression. We are remarkably free from contagion in this city at the present time. There are no placards out but there is an outbreak of smallpox in a neighboring city. I hope that we shall get no smallpox from that outbreak but I fear that we shall. We have 33 students in the normal school who are residents of Ann Arbor. I therefore wish to ask the physicians to be cautious in making a diagnosis of chickenpox. I think it would be well for the contagious ward to be in readiness because we may get some.

LANTERN SLIDE DEMONSTRATION OF RADIOGRAPHIC FINDINGS.

JAMES G. VANZWALUWENBURG, M.D.

(From the Clinic of Roentgenology, University Hospital, Ann Arbor, Michigan).

1. Case of extensive diverticulum of the esophagus.
2. Case of supposed sarcoma of the knee. Thorax showed erosion of the ribs. Hip shows expansion of the great trochanter. Curious moth-eaten texture of the skull cap. Wrist shows similar defects. Another defect in the metacarpal. In the phalanges hairlike nap on the periosteum. Diagnosis open.
3. Case of large kidney with large stone in the pelvis.
4. Case of aneurism without enlarged or displaced heart.
5. Case of lumbarized first sacral.
6. Calcified hematoma.
7. Case of fracture of the skull by exploding dylitis deformans.
8. Case of supposed Pott's disease. Spondylitis deformans.
9. Case of migrating needle in the foot.
10. Case of stone in the bladder.
11. Case of calcified glands in the hilus of lungs.
12. Case of post pneumonic infection of the lungs.
13. Case of pulp stone in the tooth. Also lime absorption in the mandible. Jaw locked.

Probably an old fracture and congenital deformity.

14. Case showing areas of decalcification at the ends of teeth. Also showing poorly filled root canals.

15. Case of anomalous tarsal bone, os trigonum.

The last case is illustrative of a class of cases that frequently lead to considerable confusion of the inexperienced.

jection. A fracture of the posterior tubercle of the astragalus is not so rare, it being a minor injury frequently overlooked on the clinical examination and healing fairly kindly so that no suspicion is aroused against the diagnosis of sprain. Accordingly this diagnosis was tentatively made with the request that the patient be returned for an examination of the opposite foot to see whether the condition was symmetric. A second radiogram of the well foot (Fig. 2)

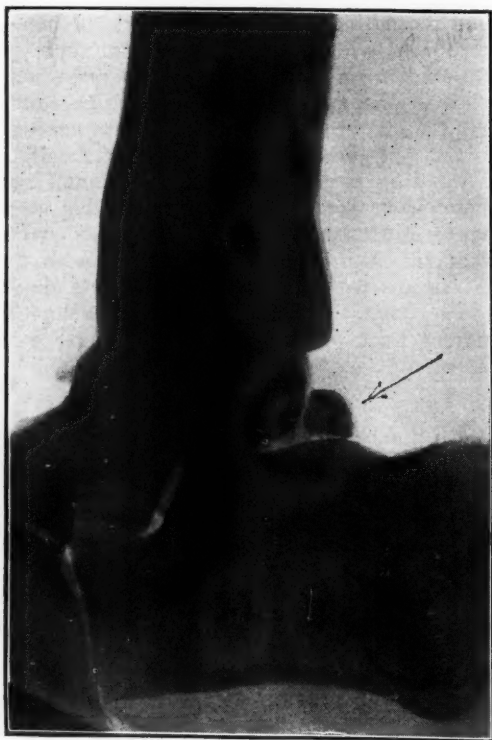


Fig. 1. Injured foot. Shows the accessory tarsal bone simulating a fracture of the posterior tubercle of the astragalus, requiring examination of the uninjured foot for comparison.

The patient presented himself for a football injury of the ankle. The radiograph taken at this time (Fig. 1) showed the posterior tubercle of the astragalus, apparently separated with a narrow fissure from the body of the bone. This fissure was rather clean cut with sharp margin and without the line of density which we usually see surrounding the separate and distinct bones which represent the cortex in tangential pro-

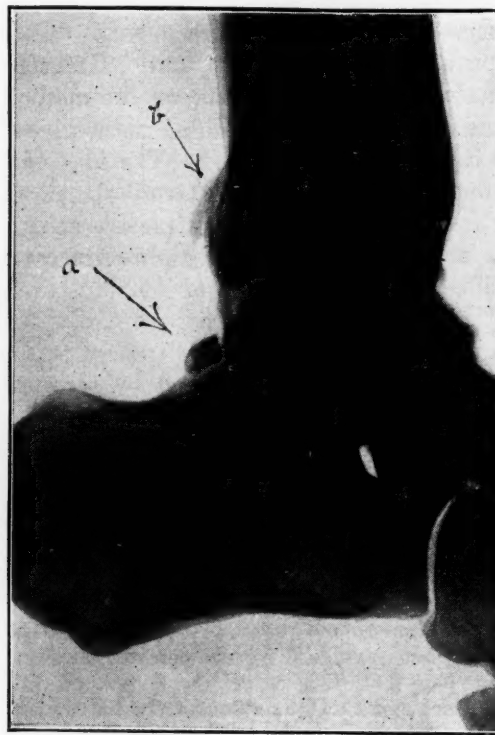


Fig. 2. The uninjured foot shows a similar accessory bone at "a." At "b" is seen an osteophyte, the result of a previous football injury.

shows a similar deformity and therefore leads to the diagnosis of anomalous tarsal bone.

No less than nine of these anomalous bones have been described. The majority of them represent ununited centers of ossification or vestiges of tarsae which have disappeared during the development of man. Several of these have been given names, among others this particular anomaly has been called os trigonum.

Toxinol.—Toxinol is a "syphilis remedy" marketed by the Hawes Chemical Co., Louisville, Ky. It is a shotgun mixture characteristic of the days when syphilis was treated with haphazard mixtures of iodides, mercury and vegetable "alteratives." The Council on Pharmacy and Chemistry has examined Toxinol and the claims made for it, and reports that Toxinol is ineligible for New and Nonofficial Remedies because it is an irrational combination of drugs,

marketed under a name that is non-descriptive of its composition and with unwarranted and misleading claims (*Jour. A.M.A.*, Dec. 2, 1916, p. 1687).

Toxicity of Salvarsan.—From the reports of O. S. Ormsby and J. H. Mitchell, A. M. Moody and J. D. Ellis in *The Journal A.M.A.*, Dec. 9, 1916, it would appear that some of the salvarsan recently on the market has been unusually toxic (*Jour. A.M.A.*, Dec. 9, 1916, p. 1764.)

The Journal

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February

Editorials

FORMATION OF HEALTH BOARDS IN CITIES.

Dr. Baker in his address on "Early History of Michigan State Boards of Health" delivered at the last Annual meeting of State Medical Society said, "The knowledge of the most worth to the most people was to round out the plan of the State Board of Health in educating the people in preventive medicine, in treating contagious diseases and devising means to quarantine same so that the public could be protected." This knowledge was considered of no consequence by his successor in office who was appointed politically instead of by the Board as had been the previous method. The appointing power chose the executive more for his political pull than his knowledge of preventive medical and sanitary science. For ten years we have suffered from this mistake and will continue to suffer until it is corrected. Is it not time for all who have an interest in Sanitary Science and preventive medicine to try and correct this mistake, throw politics aside and join hands with State Board of Health to spread this knowledge given to us by Drs. Baker, Vaughan, Kenzie, Kellogg, Hazlewood and others? In order to spread this knowledge we must have efficient township, village and city Boards of Health that must work in unison with our State Board of Health. The heads

of these boards must be medical men with some knowledge of our health laws and sanitary science as they by virtue of their office are the executives. In other words they, in order to fill these offices, must be graduates of good medical colleges and registered according to the laws of the State of Michigan. Is such the case? No, for in the township in which the capital of this state is located a supervisor has been health officer for years. Why, because the health laws of the state give him that right and the right to use it for political purposes. Should the law be amended? Since Dr. Baker went out of office our cities have increased in size rapidly due to our vast manufacturing interests and the problem of establishing health boards in them has been a very difficult one. Why? Because the health laws do not designate the formation of a health board in cities of only 10,000, over that they have left to mercy of the political power of the city council and their favorites. The home rule clause in most of our city charters give the city council power to form any kind of board of health they see fit and as a result or lack of law they can appoint a board that is only fit for a small village or backwoods township. Matters of sewerage, disposal of garbage, quarantine, etc., are left to the senior aldermen who form the board of health with the health officer who is appointed more on his qualifications of political pull than his knowledge of matters appertaining to sanitary science.

We have entered upon a state-wide education in tuberculosis and after the preliminary survey is completed the work will have to be carried on by the health boards of this state and especially the city health boards. Does it look as if it would be carried to a successful end by these inefficient city health boards? Can the State Board of Health do much in spreading sanitary knowledge through such boards? In speaking about this matter with present Secretary of State Board he made the remark that no city in the state violated the health laws as did the capital city of this state.

Last winter the Committee on Legislation of Ingham County Medical Society seeing the need of a better board in our capital city laid the plan of a non-political board before the city council, was instrumental in getting the charter amended so such a board was appointed. Now in the appointment of the members. The committee's plan was ignored, the medical society, or the State Board of Health was not consulted as to who would be suitable and in absence of state law that should define qualifications of

members, out of six members, one doctor, one dentist was appointed and four political friends of the appointive power.

The board have a new health officer and in his appointment they took advantage of the law, and the laws requirements for a health officer for township or village which says that he must be a well educated physician, the other requirements as to being a graduate of dental, veterinary or medical college or a man that is registered being left out.

I think I can voice the sentiments of all medical men who have preventive medicine and sanitary science in view and who have worked with the State Board for spread of knowledge along that line that we need a law defining the appointment and election of city boards of health in cities of over 10,000 inhabitants, their qualifications and duties.

FRANK M. TURNER,

Chairman of Legislative Committee ofingham County Medical Society.

SANITARY SWIMMING POOLS AND THEIR CONTROL.

The swimming pool is a live topic in this county and they are being rapidly established throughout this country. A few words on the swimming pool from a medical standpoint will probably interest all of us. Two years ago I examined smears from cases of valvo-vaginitis occurring in a neighboring town. I do not know if the source of this infection was definitely located but the swimming pool may have been considered and ruled out or vice versa. The swimming pool when in use is always infected, and, unless proper care is taken, may be a source of disease and even of epidemics. Lewis had classified these infections as chiefly gastro-intestinal, respiratory and venereal. It is an established fact that intestinal infections have resulted from bathing in contaminated water. Mannheimer recently demonstrated that the water of two first class pools, after one day's use, contained from 75,000 to 600,000 bacteria per cubic centimeter, and of these, colon bacilli varied from one to 100 per cubic centimeter. In addition, the possibility of dangers from typhoid carriers must be considered. The respiratory affections, such as mild epidemics of "sore throats and colds," are quite common; ear complaints were frequent among bathers at the Chicago lake beaches during the past summer. Hastings states that these infections "are far more dangerous than some other conditions for which strict health regulations are

enforced. Many mastoids, and some deaths occur that should be and can be prevented by keeping people with 'colds' from swimming." Although Skutsch reported 236 cases of gonorrheal vulvo-vaginitis from exposure in one pool, yet the gonococcus seldom seems to be a serious menace.

Lewis considers the means of safeguarding the pool under the headings of: (1) construction and equipment, (2) disinfection, (3) suits, (4) the preliminary shower, (5) inspection and exclusion, (6) bacteriologic control, and (7) sanitary education.

The pool, free from all obstructions, should be located where a maximum amount of air, light and ventilation may be obtained; a raised broad flat edge around the pool is essential in order to protect it from floor drainage. It is preferable to rotate the same water for several weeks, employing a continuous filter and adjunct sedimentation basin, rather than to refill the tank weekly or biweekly with fresh water. No system, however, is safe without daily sterilization. As the ultraviolet ray probably is a most efficient form of sterilization, proposed swimming pools should be constructed so as to provide for this newer method of disinfection by means of the energetic "short wave lengths."

Experiments were made by Lewis on various pools in or about Evanston, Ill., as to the best chemicals and method for disinfection. As to calcium hypochlorite, which the author regards as good, if not better than other chemicals, he says:

As a rough criterion, a tank of 60,000 to 70,000 gallons' capacity needs one pound (of calcium hypochlorite) per day.

The system of adding in solution by means of a synchronous pump, working with the circulative pump in the continuous filtration system, has the advantage of mechanical control and uniformity of feed. I am yet to be convinced, however, of its advantage over the simple expedient and adding the chemical by hand at the end of the day's usage. When added gradually during refiltration, the concentration is never so high as when the whole amount is put in at once. The germicidal action is, therefore, not so great. Moreover, when added continuously, the swimmers are in contact with the fresh solution and may complain of odor and tastes. If added at night it has fully reacted and by morning is fully dissipated, leaving a sterile, wholesome water with which to start the day. An effective and simple method of adding hypochlorite is to transfer the chemical to a thoroughly perforated can and drag it by

means of a wire and a pole over the surface of the pool until it has gone into solution.

Of importance is the cleanliness of the suit, which should be as nearly sterile as possible. The use of soap in taking the preliminary shower should be strictly enforced, irrespective of whether the bathers are men or women. The contamination from lack of bodily cleanliness, together with the dirt of the floor picked up by the feet leads to wanton pollution. "However carefully the water in the pool is renewed and purified, the good work is wholly undone if care is omitted in the prevention of water contamination."

A rigid inspection of the users is necessary in order to exclude all showing signs of infection from venereal and skin diseases, coughs, colds and tonsillitis. Expectorating, and blowing the nose by nearly every swimmer makes these infections dangerous to all.

Scientifically a pool cannot be controlled unless adequate bacteriologic tests are made. By this means its condition can be ascertained before the pollution has assumed such alarming proportions as to manifest itself in the form of an epidemic. The sanitation of the swimming pool is a matter of common sense; those who do not respect the privileges of the pool should be deprived of its use. Not until every user of the pool has an intelligent understanding of the conditions involved, and is willing to encourage the enforcement of sanitary regulations, can we hope to have really safe pools. One epidemic traced to this source may put the pool in disrepute.

With the establishment of pools in our communities a pamphlet should be issued by the health department which will point out dangers from these pools and educate the public so that the users will be on the alert to see that these dangers are kept at a minimum.

GEO. M. BELHUMEUR.

TUBERCULOSIS SURVEY.

We are incorporating in this editorial a prepared summary of the work accomplished by the State Board of Health in the statewide Tuberculosis survey that is now being conducted. This summary is extracted from the voluminous and detailed report of that board to the Governor. We would that it were possible to publish the entire report in detail. To do so would require practically one entire issue of *The Journal*. Inasmuch as we understand that the complete report will be available in

printed form we must ask our readers to be contented with this summary for the present.

A careful reading of the report convinces one of the monumental task that has been undertaken. When the funds appropriated have been exhausted and the state covered, the tabulated results will be indicative of a crying necessity for permanent, periodic clinics, statewide in their scope. Such clinics while at first devoted to tuberculosis must eventually broaden in their scope and devote their efforts equally to cancer, venereal diseases—in fact embrace the major problems of health conservation and prevention of disease and the education of the public.

This survey has been a constructive effort without precedent and has blazed a trail hitherto untraveled. Mistakes in management, methods, the keeping of records and in executive detail did occur—could not help but occur. As experience was gained errors were corrected and thus of late there has been accomplished greater results and more accurate information tabulated. Could the entire state be re-canvassed still more valuable data would be secured. However, a pace has been set; valuable information has been recorded. The evidence obtained is self sufficient to conclude that it has been worth while. The convincing figures are at hand wherewith we can appear before the Governor, the legislature, the press, and the public and declare:

1. The necessity of Permanent, Periodic, Statewide Clinics.
2. The necessity of Whole Time Health Officers.
3. The necessity of establishing Sanitary Districts.
4. The necessity of the continuance of the movement to eradicate Tuberculosis and later the adoption of similar methods in regard to venereal diseases, cancer and the right way to live.
5. The necessity of larger appropriations of funds to the State Board of Health in order that it may be enabled to develop these movements in the interest of the health, happiness and longevity of the people of Michigan.

We submit the following summary as advance information:

PURPOSE OF THE STATE BOARD OF HEALTH TUBERCULOSIS SURVEY.

The purpose of the tuberculosis survey conducted by the State Board of Health in accordance with the provisions of Act 238, Public Acts of 1915, is threefold:

1. To find by actual physical examination every case of tuberculosis that can possibly be discovered in every community in the state.

2. To give every victim of the disease so discovered, together with his family, all the information they may need to make an effective fight for health.

3. To arouse each community, as much as possible during the limited time at command, to a realization of the necessity of bending every local energy to an effort to cope with the disease locally.

The first of these is perhaps the most important at this time. Hence, every possible effort is being made to find all the cases of the disease that can be found during the brief period of one or two weeks devoted to a county. If the State Board of Health had a complete record of all the cases of tuberculosis in the State (between 20,000 and 30,000, it is believed) it would be comparatively simple to stamp out the disease. There is a law of course, requiring physicians to report all cases of tuberculosis that come under their observation to the State Board of Health. But even at best this law is but imperfectly lived up to; moreover, the present survey shows that there are thousands of cases that no doctor has had an opportunity to see. To discover these thousands of cases while they are yet in the early stages when they can be easily cured, is the main object of the survey.

It would be ideal for all persons who have tuberculosis to go to a sanatorium to get well. But there is in Michigan only one sanatorium bed for every fourteen persons ill with the disease, so that is out of the question. Hence, the next best thing is to help the victims of the disease to regain health in their own homes. Much effort in the survey is directed to this end. In the county surveys, nurses give all those diagnosed as tuberculous, careful instruction as to what they must do and how they can protect the other members of their families, and a strenuous effort is made to place each person under the personal care of his family physician.

Each city or county can help its own people fight their disease by erecting a sanatorium, by erecting an open-air school, by organizing a full-time health department, and in several other ways. It has been the aim of the survey to arouse the counties and cities to a realization of the necessity of efforts of this kind. And many communities have already taken action, and others are following.

HOW MANY CASES OF TUBERCULOSIS WERE FOUND.

During the twelve months from Oct. 1st, 1915, to Oct. 1st, 1916, covered by the forthcoming report on the Tuberculosis Survey, thirty-eight counties in the state were visited. In these counties a total of 11,528 persons were examined in the free public clinics. Of this number 2,914 were diagnosed by the physicians as positive cases of tuberculosis. A total of 2,231 were diagnosed as "suspicious" cases, that is, cases that are likely to be tuberculous in the early stages of the disease. A total of 404 were listed as "arrested" cases, that is, persons who have had tuberculosis but in whom the disease has been arrested. The negative cases, or cases of persons examined in whom no trace of tuberculosis was found, numbered 5,924.

These figures indicate that of the persons examined in the county surveys, 44.6 per cent. were found either to have tuberculosis or to be so seriously threatened with it that they required the attention of a physician.

This fact, brought out by actual physical test, was

a source of surprise to many of the communities where surveys were held. Moreover, it was somewhat of a surprise to medical men in general to learn that the disease is as widespread as it is being found to be. It should be borne in mind that it is not 44.6 per cent. of all persons who have tuberculosis, but 44.6 per cent. of those actually examined in the public clinics, and these were largely selected cases. But even at that, the figures show how widespread the disease is in Michigan.

It should not be assumed that the figures given above constitute all the cases of tuberculosis in the thirty-eight counties visited. On the contrary, the statement should be emphasized that a good many more cases could be discovered in every county visited if visited again. It would be absurd to expect that all cases of tuberculosis in a given community could be found in the course of a few days of public examinations.

In one county, fully a thousand people came to the free public clinics to be examined. Not nearly all of them could be accommodated because it was impossible to devote more time to that county without doing an injustice to other counties that were also waiting for the survey. In several counties, the people have asked the physicians to come again, a request that could not, of course, be granted because many other counties were still waiting for the first visit. In only one case was a return call made, and in the course of a one day clinic in a city of 5,000, scores of people were examined and many additional cases of the disease found.

HOW THE TUBERCULOSIS SURVEY WAS CONDUCTED.

The State Board of Health tuberculosis survey began on Oct. 1st, 1915, and under the terms of Act 238, Public Acts of 1915, it is to close on June 30th, 1917, a period of 91 weeks in all. There are 83 counties in Michigan, so that, taking the county as a unit of the survey, the time limit allowed is a trifle more than a week for each county.

During the twelve months of the survey covered in the State Board of Health's forthcoming report to the 1917 Legislature, 38 counties were visited. While this is less than a county a week, the counties are among the largest in the state, many of them, and it seems no more than just that the larger counties should have more time devoted to them than the smaller ones.

In the tuberculosis surveys, three weeks are devoted to the largest counties, two to counties somewhat smaller, one to the smallest ones, and occasionally two counties are grouped together in a week's survey.

In a three weeks' survey, the first week is devoted to making all the necessary preparations. Nurses are sent into the counties to interest the local doctors, anti-tuberculosis workers, civic organizations, schools, churches, etc., in the work. The aid of the newspapers, ministers, manufacturers, etc. is solicited. In every possible way, the community is aroused to take an interest in the survey with a view of getting all persons who are physically run down to come to the free public examinations.

These free examinations are held the second week of the survey. Usually they are held in four or five places in a county at the same time. Competent physicians and nurses are on hand in some centrally located building to examine free of charge all per-

sons who come. From eight o'clock in the forenoon till five in the afternoon these free examinations are held and usually some four hundred persons are given a careful physical examination in each county of any size, while sometimes more than that are examined.

During the final week of the survey, public addresses about tuberculosis, its causes, prevention and cure, are given. Speakers give talks in the schools, in churches, before civic organizations, at meetings of medical associations, before common councils, before boards of supervisors and everywhere else where they can get a hearing. These addresses emphasize the necessity of local action to curb tuberculosis by building sanatoria, open-air schools, etc.

In the two weeks and one week clinics the procedure is the same, less time being given to each phase of the survey.

PROPORTION OF "NEW" CASES IN STATE TUBERCULOSIS SURVEY.

The question perhaps most frequently asked in regard to the free examinations for tuberculosis of the Tuberculosis Survey is: "How many of the cases of the disease found are new cases?" Obviously, it is vitally important whether the cases are of persons who have been diagnosed before, who knew they had the disease, whose doctors knew they had the disease, or whether this is the first time they have been discovered.

In answer to this question the following statement is a startling one, but it is based on figures carefully tabulated from the records of several thousands of individual cases that were diagnosed as "positive" in the county surveys of thirty-eight counties. *Of the total number of positive cases, only 2.2 per cent. had been previously reported to the State Board of Health.* In other words, 97.8 per cent. of the positive cases can be looked upon as "new" cases. By actually questioning patients, it was found that over 96 per cent. admitted they knew nothing about it.

A startlingly large number of the persons listed as "positive" cases did not know they had the disease until they were told so in the free public clinics. In some cases, they had no suspicion of the truth. In a large number of cases, the victims knew only that there was something wrong with them, but it did not seem serious enough so that they would have consulted a physician. But because the state provided these free examinations, they came to have themselves looked over, with the result that positive tuberculosis was discovered in them.

It is believed that it is in this that the real value of the tuberculosis survey comes out most clearly. Anything that can be done to discover the disease in the early stages is effective work. It is then that tuberculosis can still easily be cured. The whole tuberculosis problem for this state, as well as for every other state and country in the world, lies in this, that it is practically impossible, under present conditions, for the physicians and the health workers to get hold of the "new" cases while they are still new. It is a well known fact that it is characteristic of tuberculosis to cause its victim to believe his trouble is a "bad cold" or throat trouble or indigestion or some other minor ailment, until the disease has advanced quite far. Many health

workers believe that if every person would submit to periodic physical examinations, tuberculosis could be wiped out in a comparatively short time, because it would be practically impossible then for the disease to get a foothold. And it is believed that the state of Michigan, by making these free examinations possible, has already been instrumental in saving many from the disease who had it in the early stages and did not know it, as well as saving many who were on the verge of contracting it.

EDUCATIONAL WORK IN THE MICHIGAN TUBERCULOSIS SURVEY.

Dr. W. A. Evans, health editor of the *Chicago Tribune*, published an article in the *Tribune* of Dec. 12, 1916, on Michigan's tuberculosis survey which began with the sentence, "No state has a better consumption campaign than Michigan." And much of the success of the survey is due to the educational work that accompanies the free clinics.

This work consists in nurses visiting patients, instructing them how to take treatment and distributing literature, speakers delivering addresses in schools, churches, before councils, board of supervisors, etc., a publicity man preparing educational publicity for newspapers. In every county, the people are strongly urged in this educational campaign, to appoint full-time health officers and visiting nurses and to erect sanatoriums and open air schools.

Since the survey began, three full-time health officers have been appointed in Michigan cities, and eight visiting nurses. In eighteen counties, agitation has been begun for the erection of sanatoria. In two counties, St. Clair and Wexford, sanatoriums have been provided for to be erected soon. In eight places, state open-air schools have been either opened or provided for since the beginning of the survey, and in eight places, the local physicians have organized free weekly clinics conducted on the plan of the State Board of Health clinics.

The results of the educational side of the survey are necessarily definite and less immediate than the results of the free public examinations. The work done in the examinations can be listed in sets of figures, but what results from the educational work cannot be so listed. Sometimes it takes a long time for a city or a county to act on advice given during the county survey. Anyone who is familiar with how public sentiment grows on any subject will appreciate this statement. But it would appear from the definite results already obtained that much can be looked for from the educational parts of the tuberculosis survey.

And when results are obtained from this work, they are important. For instance, when a city adopts the full-time health department system as a result of a survey, it means that very many cases of tuberculosis are going to be prevented in the future in that city. It is a result that is going to keep on bearing fruit from year to year, long after the present campaign has been forgotten. Similarly, when a county builds a sanatorium or an open air school, these institutions are going to keep on combatting tuberculosis in the distant future, when the present survey is only a memory.

TUBERCULOSIS IN MICHIGAN'S SCHOOLS AND DURING THE PRODUCTIVE PERIOD OF LIFE.

During the twelve months from Oct. 1, 1915, to Oct. 1, 1916, a total of 1,114 persons of school age (i. e., from five to nineteen, inclusive) were found to have tuberculosis in a positive form.

There is a special reason why the State of Michigan and every other state fighting tuberculosis, should lay stress on work done among children. Anti-tuberculosis workers have come to understand that in reaching them lies the real hope of success. It is now quite generally held that a very large percentage of cases of tuberculosis of adults is the result of the disease contracted in childhood. It is believed that the disease often remains dormant for many years until the strain and stress of life break down the individual's resistance and causes him to fall a victim to the germs that have lain hidden in his system since childhood.

If such is the case, the strategic method of attack is obviously to cure the children. By saving them, we are not only saving the present generation of children, but we are saving many of the men and women of twenty-five and thirty years hence.

Aside from that, it is right to pay special attention in a tuberculosis survey, to children because society is in a special way responsible for their health. It compels them to spend several hours a day in school rooms and thereby assumes the responsibility for their physical welfare to a large extent.

Recognizing this responsibility and the very real progress that can be made by fighting tuberculosis through children, the State Board of Health workers have laid special stress in all county surveys on the necessity of establishing open-air schools. The result has been gratifying, although hardly more than a beginning has been made in this great movement.

It was further found that 55.2 per cent. of all positive cases of tuberculosis were between the ages of 20 and 50. It is during those years that a man or woman is worth most to the state. It is then that a father bears the burden of the support of a family and a mother takes care of growing children. That the strain of this is often too great is shown by the large number who break down under it and fall victims to tuberculosis. When such people are poor, the care of their children falls on the community. Hence, it is good business to fight tuberculosis during this period of life.

TUBERCULOSIS IN COUNTY JAILS.

All the inmates in ten county jails were examined for tuberculosis in the course of the county surveys. The total so examined numbered 152, of whom 18 had "positive" tuberculosis; 24 were listed as "suspicious;" 9 as "arrested," and 101 as "negative."

Thus, 27.6 per cent. of the inmates of county jails inspected had tuberculosis in either "positive" or "suspicious" form. If it is reasonable to estimate from these sample counties, as it seems to be, that in the neighborhood of 27 per cent. of all the county jails in Michigan have the disease, or are seriously threatened with it, does it not give an illuminating glimpse into the life of a large class of the state's non-jail population? Most of the inmates of county jails are there for short terms because of minor offences. A very large part of the county jail population is recruited from a certain class of citizens

that cannot be definitely fixed by any single descriptive name. The hard working laboring man, the professional man, the business man, seldom, or never, lands in the county jail. It is the person who drifts, who usually is a loose and casual member of the community, with few ties, few connections, small or no means, who lands in the county jail.

And while, as compared with the whole of society, this class of people may perhaps not be important in themselves, the fact that so large a percentage of them are tuberculous becomes important to the whole state because of the fact that this class mingles freely with the rest of the population, during the time not spent in jail and form a source of spread of the disease.

Aside from the duty of each county to make its jails such that they will not aid in the spread of tuberculosis, it seems high time for the people of the state as a whole, in mere self-protection, to take active measures against tuberculosis among all classes of people, the shiftless and drifting, as well as the well-to-do and the stable, for only by reaching all classes can we hope to cure the disease effectively.

The menace that the class of people from which the jail population is recruited is to the rest of society is emphasized by the fact that not a single one of the 42 cases discovered had been reported as tuberculosis to the State Board of Health, and not a single one of the persons diagnosed as tuberculosis knew that he had the disease.

ENTHUSIASM.*

Enthusiasm is the dynamics of your personality. Without it, whatever abilities you may possess lie dormant; and it is safe to say that nearly every man has more latent power than he ever learns to use. You may have knowledge, sound judgment, good reasoning faculties; but no one—not even yourself—will know it, until you discover how to put your heart into thought and action.

A wonderful thing is this quality which we call enthusiasm. It is too often underrated as so much surplus and useless display of feeling, lacking in real substantiality. This is an enormous mistake. You can't go wrong in applying all the genuine enthusiasm that you can stir up within you; for it is the power that moves the world. There is nothing comparable to it, in the things which it can accomplish.

We can cut through the hardest rocks with a diamond drill and melt steel rails with a flame. We can tunnel through mountains and make our way through any sort of physical obstruction. We can checkmate and divert the very laws of Nature, by our science.

But there is no power in the world that can cut through another man's mental opposition, except persuasion. And persuasion is reason

*Reprint from January, 1917, *Armour Magazine*.

plus enthusiasm, with the emphasis on enthusiasm.

Enthusiasm is the art of high persuasion.

And did you ever stop to think that your progress is commensurate with your ability to move the minds of other people? If you are a salesman this is pre-eminently so. Even if you are a clerk, it is the zest which you put into your work that enkindles an appreciation in the mind of your employer.

You have a good idea—don't think that other people will recognize it at once. Columbus had a good idea, but he didn't get "across" with it without much of this high persuasion.

If you would like to be a power among men, cultivate enthusiasm. People will like you better for it; you will escape the dull routine of a mechanical existence and you will make headway wherever you are. It cannot be otherwise, for this is the law of human life. Put your soul into your work, and not only will you find it pleasanter every hour of the day, but people will believe in you just as they believe in electricity when they get into touch with a dynamo.

And remember this—*there is no secret about this "gift" of enthusiasm*. It is the sure reward of deep, honest thought and hard, persistent labor.

J. OGDEN ARMOUR.

Editorial Comments

Kentucky State Medical Association—Report of Committee on Medical Ethics on Nurses as Anesthetists in Kentucky.

It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine, and physicians should expose without fear or favor, before the proper medical or legal tribunals corrupt or dishonest conduct of members of the profession.

Your committee in this connection desires to call your especial attention to a violation of these principles of ethics in the employment by surgeons of nurses and others as anesthetists who are not trained in the practice of medicine. It is urged that this is a procedure under the control of the surgeon, but we submit that neither law nor usage permits surgeons to decide who shall be permitted to practice medicine. In addition, few surgeons are qualified better than others of the profession in the administration of anesthetics. In order, therefore, to stop this evil now, your committee recommends that

the medical profession of Kentucky requests its members not to employ others than qualified physicians as anesthetists except in cases of emergency. In order to make the request urgent and effective, we would suggest that the profession should not refer cases to hospitals where nurses are allowed to give anesthetics, and that hereafter no member who so violates the law and ethics shall be considered in good standing in this Association.

Every physician likes to think that he is ethical, and it lies in the power of each one of us to be so.

A physician should not only strive to stand high in the community, but with his professional associates also.

The majority of physicians are ethical, and the medical profession must continue to draw a wide line between quackery and ethics.

(Signed)

C. H. TODD, Chairman.

C. W. HOLLAND.

W. H. CARR.

The attention of the affiliated members of the Michigan State Medical Society is called to the ethical conduct of the Hygeia Hospital, where the non-secret treatment for narcotism, as given to the medical profession through the *Journal of the A.M.A.*, is used, with the highest per cent. of fixed results.

This treatment, in addition to separating the user from his habit, dissociates the habit from the mind and body of the individual, thus obliterating the craving. The treatment is of short duration; the discomfort minimized.

On entrance, covering all ordinary expenses, a fixed charge is made, which is moderate considering the service rendered in the individual case, and the permanency of the results.

Those interested should write for reprints and general range of prices.

The January Meeting of the Council was held so late in the month as to make it impossible to incorporate the minutes of that meeting in this issue. The complete proceedings of that meeting will be published in the March issue.

Unwittingly and sometimes wittingly, the physician, surgeon or specialist utters a remark in connection with a case or surgical procedure that is not only nonsensical but implies ignorance and smacks of quackery or is a play to the uneducated grand stand. Why one would stoop and belittle himself in doing so is hard to explain. If the utterant is deluded into thinking he is placing himself on a high pedestal of glory he is unconscious of the fact that he is in danger of falling into the abyss of ultimate oblivion.

Recently a patient was heard to remark: "Dr.— said my tonsils were so bad he broke an instrument while removing them"—Mr. Thinker will hesitate to employ a man whose work is so bungling and rough as to break instruments in removing tonsils. Another patient remarked: "Dr.— performed a difficult operation this morning. It took him three hours to operate on a hernia." Mr. Educated will avoid the surgeon who consumes three hours to perform a herniotomy. Another was heard to say "Dr.— stated that her spine was so bad that it took him over an hour before he could get the needle into the cord canal to draw off some fluid to examine." Another man remarked: "Dr.— said his tonsils were so near to an important artery that he couldn't remove them because he couldn't stop the bleeding." One lady stated that when her baby was born, two doctors pulled with all their might, another held her on the bed and a fourth one gave her chloroform. Modern obstetrics does not demand such brute force or "forty-two stitches."

When, Oh! When!, will doctors cease to tell people such absurd and unintelligent things? Vague, evasive, ignorant remarks are belittling to say the least. We might better be honest, admit that we do not know, or have erred and seek proper assistance. Our bluffs will soon be detected. It is becoming harder each day to hood-wink a patient because he is demanding modern diagnosis and treatment and will not be content with the mysticisms of the age that is past. Honesty will bring you greater aggregate results.

Correspondence

Avon Lake, Ohio.

Dr. F. C. Warnshuis, Editor,
Grand Rapids, Mich.

I note in the discussion of the nurse anesthetist, which your editorial in the November issue of the *Journal of the Michigan State Medical Society* engendered, your suggestion that the trained specialist in anesthesia should be heard from.

I am replying to your suggestion not with any intention of continuing any discussion in your columns, but merely to publish some recent developments in the propaganda to conserve anesthesia as a specialty of the practice of medicine and dentistry.

To begin with the Organized Anesthetist intend leaving the ethical phase of the unlicensed anesthetist to the medical and dental professions, as a whole; and the legal phases to the various State Medical Boards and courts of last resort.

In this connection it may interest your readers that after the Attorney General of Kentucky had rendered an opinion declaring the unlicensed or nurse anesthetist illegal; and after the Kentucky State Medical Association had declared the nurse anesthetist unethical, her employer not in good standing and had requested members to boycott hospitals employing nurse anesthetists, Dr. A. T. McCormack, to finally adjudicate the matter, arranged an agreed case, Dr. L. Frank and Margaret Hatfield vs. State Board of Health of Kentucky, which will be tried in the Louisville Courts and

then will be reviewed on appeal by the Supreme Court. Whatever adjudication of the unlicensed anesthetist in relation to licensure and reciprocity develops from the decision in this case will have some definite value in determining the legislative policy of other states. Until such a time as this decision has been rendered further discussion of the legal status of the nurse anesthetist would be rather futile.

Those employing nurse anesthetists who took exception to the ruling of the Ohio State Medical Board, as announced in your November editorial, have sent the Board a signed statement agreeing to its demands and Lakeside Hospital has been reinstated as an Acceptable Training School.

However the exponents of the nurse anesthetist almost immediately thereafter circularized the hospitals of Ohio in an effort to secure sufficient support to warrant an amendment to the existing law that would legalize nurse anesthetists. The circulars issued misinterpreted the ruling of the Ohio State Medical Board by attempting to project the fifth-year interne into the controversy. During the open hearing at Columbus, President Simeon, interrupted the proceedings to announce authoritatively, that the Board and the Organized Anesthetists were a unit in protecting the interne in his rights and privileges to practice any phase of medicine, surgery, dentistry or their specialties under proper supervision. Moreover it was announced that the Organized Anesthetists were advancing the teaching of anesthesia and training in its administration as rapidly as the sympathetic attitude of the medical and dental professions permitted.

To offset the medico-political activity of the exponents of the nurse anesthetists, resolutions were circularized to the component County Societies of the Ohio State Medical Association, and these resolutions denouncing any meddling with the existing law in order to legalize nurse anesthetists, were passed, with the approval of the President, the State Council and the Committee on Public Policy and Legislation by most of the larger County Societies, representing over 90 per cent. of the profession throughout the state.

Certain employers of the nurse anesthetist are continuing her use in Ohio against the decision of the Ohio State Medical Board and the ethical verdict of the profession. These parties are hoping that remedial legislation will yet be passed to protect their infractions of law and ethics. In the meantime these same exponents are aiding and abetting nurses to enter the practice of anesthesia in other states, in open defiance of interstate legal requirements for the practice of medicine. This discrimination of compelling medical and dental specialists in anesthesia to conform to medico-legal reciprocity, while the nurse anesthetist is permitted to go and come in the practice of medicine as a free lance, is causing considerable resentment within the profession and some of those implicated are being given just enough rope to hang themselves.

A very interesting phase of the matter is the fact that some chartered medical schools with the recognition of their respective state boards are now impeaching their own standing by openly confessing their inability to teach the subject of anesthesia to their students. They seem to find it both impossible to educate physicians so that they are com-

petent to teach anesthesia and find it equally impossible to train internes to be anesthetists.

In view of the fact that Johns Hopkins, the U. of Indiana and the U. of Chicago have in the past, in their medical schools and hospitals produced research-work in anesthesia by fifth-year internes, it seems rather incriminating that any state university should have to employ an unlicensed person to teach anesthesia and should find it necessary to use nurse anesthetists in its clinical hospital.

Such a confession of incompetence should not go unchallenged; and the same argument applies to certain hospitals who are attempting to replace licensed medical specialists in anesthesia with nurse anesthetists.

Of course if the profession of any state wishes to sit supinely idle and see itself underhandedly socialized in the practice of medicine, surgery and dentistry, on the basis of a nurse's pay, all well and good. The profession will deserve just what it receives. The Organized Anesthetist do not intend to be caught napping.

It is rather amusing, too, to hear the protests of those who employ nurse anesthetists, when nurses invade the domain of industrial medicine and surgery or when midwives infringe on obstetricians and all the isms and fads threaten the legal control of medicine. Legalize the nurse anesthetist and the first move in throwing the legal state and interstate control of the practice of medicine and dentistry, into the discard has been made.

Any nurse who has the education, knowledge, skill and training to become an anesthetist, could just as well become a licensed physician or dentist. If the woman anesthetist is the solution, let her be a licensed physician, nevertheless. Already one-fifth of the membership of the Organized Associations of Anesthetists is composed of women-physicians. Any nurse who has not the qualifications or potentiality of becoming a licensed physician, utterly lacks the requirements for specializing in anesthesia.

In closing I may state that the medical profession of the State of New York is backing up the efforts of the Organized Anesthetists to amend the Public Health Law of New York, in this session of the Legislature, to absolutely restrictly the administration of anesthesia to licensed physicians and dentists.

As soon as something really definite results, the Organized Anesthetists will have something more to say.

Cordially yours,

F. H. MECHAN, M.D.

Sec'y Ohio and Interstate Anesthetists; Editor
Anesthesia Supplement and Year-Book.

Detroit, Mich., Jan. 11, 1917.

Dr. Frederick C. Warnshuis, Editor,
Powers Theatre Building,
Grand Rapids, Michigan.

My dear Doctor:

I have just read your editorial on "As Others See Us." Such action is certainly vicious, and such men should be shown up, their name should be published in the *Journal*, and they should be expelled from the State Society, that is all there is to it. We cannot afford to recognize such people as mem-

bers of a noble profession. I have been an advocate of the highest reasonable fees, but certainly a physician should earn them.

J. H. CARSTENS.

Deaths

Dr. P. J. Livingstone, of Detroit, formerly of Caro was seized by apoplexy while driving his car to his home and died within a few hours. His sudden death was a great shock to his friends.

The news that rapidly spread through Cadillac on Sunday, Dec. 31, 1916, that Dr. Raphael Brodeur had suddenly dropped dead while returning in his automobile from attending church service brought surprise and grief to all of the large number who have known him. Dr. and Mrs. Brodeur had taken Mr. and Mrs. Julian Burgess on First Avenue to St. Ann's church Sunday morning and were returning with them when Dr. Brodeur's death occurred. Considerable trouble had been experienced in starting the machine at the church door and when the end of Lynn street was reached Dr. Brodeur is believed to have suffered a brief fainting spell. The car left the road and stopped in the deep snow in front of the Charles Dunham home. With the assistance of J. A. Coffey and one or two others the car was placed back on the road and the engine started. Just as he was about to start the machine Mrs. Burgess noted that Dr. Brodeur's head dropped over on the shoulder of her husband. Mrs. Brodeur spoke to him and secured a faint answer but it was evident that his life was fast slipping away and in a few moments death had come.

Dr. Brodeur has been a resident of Cadillac for over 33 years, coming to this city from LeRoy where he practiced medicine. He had passed the age of 69 years. Born in a suburb of Montreal, Canada, he secured his medical education at Victoria College at Montreal, graduating in 1873. On September 25, 1873 he was married to Miss Malvina Bieuvnu. Besides his widow Dr. Brodeur is survived by one son, Ernest R. Brodeur of Cadillac, and by two daughters, Mrs. J. T. White of Cecil Bay, Michigan and Miss Irene Brodeur of Cadillac. Two sisters, Mrs. Alexis Dame of Montreal and Mrs. Euseb Gougou of Lowell, Mass., also survive him. A brother, Nedro Brodeur dropped dead from heart failure at his home at Lorain, Ohio, just about a year ago, on December 23, 1915. Twelve children were born to Dr. and Mrs. Brodeur, nine of them having died early in life.

Quiet and unassuming, yet possessing a gentle, kindly personality, Dr. Brodeur held a high place in the hearts of his large circle of friends. He was a faithful member of St. Ann's church and was a charter member of the Knights of Columbus and of the St. John the Baptist lodge. He has served the county as coroner and the city of Cadillac as city physician.

The funeral service occurred at St. Ann's church, Wednesday morning at 9:00, the Rev. E. A. Lefebvre holding solemn high mass. The interment took place in Mt. Carmel cemetery.

State News Notes

There were 3,373 deaths reported to the Department of State as having occurred in the State of Michigan during the month of December, 1916. This number corresponds to an annual death rate of 14.4 per 1,000 estimated population. In addition to the above, there were 291 stillbirths returned as deaths.

By ages, there were 627 deaths of infants under one year of age; 165 deaths of children aged 1 to 4 years, both inclusive; and 1,204 deaths of elderly persons aged 65 years and over. The number of deaths of infants under one year of age and the number of elderly persons show a slight increase over the number for the preceding month.

Important causes of death were as follows: Pulmonary tuberculosis, 244; other forms of tuberculosis, 26; typhoid fever, 38; diphtheria and croup, 52; scarlet fever, 26; measles, 10; whooping cough 13; pneumonia, broncho-pneumonia, 464; diarrhea, enteritis, under 2 years of age, 63; meningitis, 25; influenza, 29; cancer, 226; violence, 227.

As compared with the number of deaths for the preceding month a slight increase is noted in the number of deaths from pulmonary tuberculosis, scarlet fever, measles, whooping cough, pneumonia, meningitis, influenza, and cancer. A slight decrease is noted in the number returned from tuberculosis other than of the lungs, diphtheria and croup, diarrhea under two years, and violence.

In addition to the important causes noted above, there were eight deaths returned to the Department as having been caused from poliomyelitis.

The different State Institutions, (Hospitals and Asylums, reported deaths as follows: Traverse City, 21; Ionia, 1; Lapeer, 8; Newberry, 5; Pontiac, 12; Ann Arbor, 19; Wayne County House, 52.

The distribution of deaths referred to above by counties and by cities as well as by the most important causes of death may be seen in the tables shown in the Monthly Bulletin of Vital Statistics, which is published by the Department, and is for free distribution.

Upon referring to the table of counties we find the greatest mortality rate is for the county of Luce. This county shows a rate of 40.0 per 1,000 estimated population. Wayne county, with a rate of 45.6 shows the highest birth rate for the month.

In the table of cities, we find that Ann Arbor shows the highest death rate for the month. The rate, 36.9, however, includes deaths of nonresidents. If such deaths were deducted the rate would not exceed the rate for all cities to a very great extent. Detroit City, with a rate of 41.3 per 1,000 estimated population, shows the highest birth rate for the month of cities over 5,000 population.

There were 6,968 births returned to the Department as having occurred during the month of December. This number corresponds to an annual birth rate of 26.6 per 1,000 estimated population. An increase of 564 births is noted as compared with the month immediately preceding. In addition to the above, there were 280 stillbirths returned as births.

The following program was carried out at a joint meeting of the Boards of Michigan Insane hospitals held in Lansing on January 18th:

Chairman—Hon. Charles F. Backus, President Board of Trustees Ionia State Hospital.

"The Needs and Aims of the Joint Board of Trustees"—Hon. Thos. Conlin, Member Board of Trustees, Newberry State Hospital.

"Future Developments at the Michigan Home and Training School of Importance to the State Insane Hospitals"—Dr. H. A. Haynes, Medical Superintendent.

"Future Developments at the Michigan Farm Colony for Epileptics of Importance to the State Insane Hospitals"—Dr. Robert L. Dixon, Medical Superintendent.

"Pre-Commitment Activities and After-Care: Limitations and Possibilities"—Dr. E. A. Christian, Medical Superintendent, Pontiac State Hospital.

"State Hospital Laboratories"—Dr. Albert M. Barrett, Medical Director, State Psychopathic Hospital, Ann Arbor, and Pathologist to the State Insane Hospitals.

The Detroit Physicians Business Bureau is having printed in book form, credit information on over 8,000 Detroit families. These are on the press and will soon be ready.

They are printing a limited number for members only, so if you want one notify the Bureau at once.

Due to the advance in labor, paper, etc., the cost of these books will be \$2.00 each.

If any of your accounts in the hands of the Bureau are not producing results as speedily as you desire, report them with all available information in writing to Dr. Walter Ford, care of the Bureau office.

Medical fees in Detroit have always been lower than in other cities of similar size. Due to the rapid increase in the cost of drugs, surgical instruments and supplies as well as living expenses, many physicians felt it necessary after January first, to make their minimum charge two to three dollars for day calls, with an extra charge for calls after six p. m.

FOR SALE—Cincinnati, Ohio. \$7,000 Medical Practice, and residence containing elegant offices, by physician in general practice, established twenty years, and ready to retire at 48 years of age. Practice still increasing. Excellent property in good condition; large garage on premises. A thorough inspection solicited. Write for details, then come and see. Price, \$10,000. P. O. Box 32 Sta. A.

The Annual Congress on Medical Education, Public Health and Medical Licensure will be held in Chicago in The Florentine Room of the Congress Hotel on Monday and Tuesday, February 5 and 6. All those interested are cordially invited to attend.

Dr. Gale W. Huber, receiving physician of the Detroit Receiving Hospital, retired from that position on January 1st. He has removed to Illinois where he will take up private practice.

Dr. Archibald D. McAlpine of Detroit announces the removal of his office to the Washington Arcade building.

Dr. P. W. Wilson, formerly of Negaunee, has removed to Muskegon, where he will enter general practice.

President A. P. Biddle tendered a dinner to the members of the Council at the Statler Hotel on the evening of January 23d.

Dr. Robert MacGregor has assumed his duties as prison physician at Jackson.

Dr. B. E. Biggs of the Michigan Home & Training School at Lapeer has been confined to bed with the rheumatism for several weeks.

Dr. M. E. Wilson, Lapeer, Michigan, is convalescing from an illness which has necessitated her confinement to bed or room for the past two months.

Drs. J. H. and D. H. Burley of Almont report a nice business in their new private hospital in the same city.

Dr. Paul Thompson of Lapeer is able to be around again after quite a long battle with the streptococcus rheumaticus.

The Escanaba Isolation Hospital has been established by the city authorities.

County Society News

CALHOUN COUNTY

To the Officers and Members of the Calhoun County Medical Society:

The Society closes the year and comes to this Fortieth Annual Meeting under circumstances most pleasant. In many ways, with succeeding years, our Society has followed a healthy growth in several directions, and this year has been no exception to the rule.

The program committee has provided for fourteen meetings, and at these meetings twenty different out-of-town essayists have appeared. Geographically, they have come from both east and west, numbering both New York City and the Pacific Coast. Detroit and Chicago have furnished most of the talent, but Salt Lake City gave us an excellent paper and near-by cities have not been omitted. This great wealth of entertainment has been most enlightening, and we doubt if any other County Society has been more highly favored; and for the number of members enrolled, we have had more subjects, I feel safe in saying, than has any other County Society in the State. These have proven very entertaining as well as instructive, but have not been as well discussed by the members of the Society as they should have been, and thus the individual members have lost very much good which might otherwise have been enjoyed.

Only two members of our own Society have prepared papers during the entire year, and but two other members have appeared before the Society in any capacity. These two reported interesting cases. At one meeting, which was very beneficial,

was given a program by laymen of this city. It might be well to repeat this at some future date.

Two deaths have occurred in our membership during this year, removing our valued members, Dr. John L. Ramsdell of Albion, and Dr. L. S. Joy of Marshall. Several new members have been admitted, and but for the occurrence of these two deaths, we would today number one hundred. Instead, we close the year with a membership of ninety-eight, and it is to be hoped this may be maintained to the close of the coming year; but to do this new recruits must be added. Already two or three have removed from our midst and will be asking for transfers very soon. Our membership is widely scattered geographically. We are represented as far away as New Zealand, where Dr. Peter M. Keller resides, as one of our loyal members, while Dr. Roy E. Fox is in the Canal Zone.

The financial balance at the close of this year is a trifle more than at the beginning. This is entirely due to the fact that our essayists have been generous, in many instances accepting no fees, nor remuneration for their expenses. Our dues for the coming year will be five dollars and fifty cents, an advance of fifty cents due to that much increase in the dues to the State Society.

Our Bulletin has been published regularly this year, ten issues having appeared and this was without advertising, the expense having been paid wholly by the Society. Whether it is worth while to continue this plan for another year, the Society should decide at this meeting.

A Tuberculosis Clinic has been established during this year, and how well that has succeeded and how much good has been accomplished, a report from the Tuberculosis Committee should reveal.

The question of establishing a business bureau came up for consideration, but was deemed inadvisable at the time, and the matter was dropped.

RECOMMENDATIONS FOR THE COMING YEAR

Your Secretary would recommend that the program committee endeavor to secure more papers from the members of the Society, whether on original subjects or by way of reporting cases from time to time. The members should also be encouraged to enter more freely into discussion of papers presented. Nothing encourages an essayist more than to have his subject heartily discussed by the members in attendance.

We would again call attention to the fact that our by-laws need correcting, and it seems this might well be taken up at an early date by the new administration.

It has occurred to the Secretary, that possibly some plan might be arranged, whereby a permanent repository for a Society library could be established. If this can be done our Society might purchase a stereopticon and have it always at our disposal, without the necessity of infringing upon the generosity of others.

We would also call attention to the fact that industrial health insurance is coming to be a live subject for discussion by our profession, and we believe the time is not far distant when something of this sort will be brought forcibly to our attention. We believe it would be well for this Society to have a committee appointed to keep under observation this subject, and to be ready with recom-

mendations whenever the same shall come up for discussion, as it must in the near future.

And, finally, after five years of service, your Secretary calls attention to the fact that the duties of the office have come to be much more arduous and to require considerably more time than was necessary in preceding years. The Society has grown from a membership of sixty-five, with four meetings per year, to its present proportions of one hundred members, holding fourteen meetings this year, and publishing a Bulletin of ten issues. He feels that there should be a rotation in this office and asks the Society to consider another for the office for the ensuing year. The duties and associations have been most pleasant in every respect, and very profitable, but your Secretary would be grateful for a release from these duties.

Faternally submitted,

A. F. KINGSLEY, Secretary.

CHIPPEWA COUNTY

A regular meeting of the Chippewa County Medical Society was held at the Park Hotel, Sault Ste. Marie, on Wednesday evening, January 3.

The new president, Dr. J. J. Lyon, gave an address on the welfare of the local society and the personal interests of the local practitioners in our society and its meetings.

Dr. Lyons also read a very interesting paper on practice and therapeutics. The paper was greatly enjoyed and fully discussed by all members present.

R. C. WINSLOW, Secretary.

KENT COUNTY

The first meeting of the Kent County Medical Society for 1917 was held January 10th with the newly elected President, Dr. F. J. Lee in the chair. Plans were outlined for a banquet—some time in February—which will be purely social and frivolous. The society endorsed Dr. C. C. Slemons for member of the State Board of Health. A resolution was then passed endorsing the work of the anti-tuberculosis survey and urging that more funds be appropriated for the work this year. A press censorship committee was also created during the business of this busy evening. Dr. H. S. Collisi reported a case of post-operative tetanus; and Dr. Frank Smithies of Chicago then read a paper on "Benign Pyloric Stenosis and its Clinical Management," illustrating his remarks with the lantern.

LAPEER COUNTY

The regular meeting of the Lapeer County Medical Society was held at the Hotel Elaine, Lapeer, Mich., on Tuesday, Jan. 9, 1917.

The members of the Society were the guests of the Lapeer City doctors at a nicely planned Luncheon which proved to be a grand success in every way.

Fourteen of the active members were present and several visitors who also helped to make the discussions more interesting.

The regular election of officers was held and the following officers were installed for the ensuing year:

President—Wm. Blake, Lapeer, Mich.

Vice President—I. E. Parker, Dryden, Mich.

Re-elected Sec'y-Treas.—J. H. Douglass, Lapeer.

Alternate Delegate—Peter Stewart, Hadley, Mich.

Dr. Walter J. Wilson of Detroit, our visiting speaker for the occasion was then introduced to the society and he gave us a very interesting talk on the Diagnosis, Prognosis and Treatment of the Common Heart Diseases.

He handled the subject in a very capable manner, and the discussions that followed made the meeting one of great benefit to all those present.

The next meeting will be held at the Burley Hospital, Almont, Mich. on the second Tuesday in April and it is hoped that the attendance will increase in numbers the same as our last year.

J. H. DOUGLASS, Secretary.

SANILAC COUNTY

The sixteenth annual meeting of the Sanilac County Medical Society was held in the Court House, Sandusky on Thursday, Dec. 28 for the purpose of electing officers for the ensuing year and any other business that might be brought before the meeting. Officers were elected as follows:

President—Neil J. McColl, Croswell.

Vice-President—Dr. J. C. Webster, Peck.

Secretary-Treasurer—Dr. J. W. Scott, Sandusky.

Member Medico Legal Committee—Dr. D. D. McNaughton, Argyle.

Delegate State Society—Dr. H. H. Angle, Snover.

Alternate—Dr. G. S. Tweedie, Sandusky.

Dr. B. E. Brush, Port Huron, was present and gave a very able paper on "Acute Abdominal Symptoms."

Dr. H. Learmont, Croswell, gave a very instructive talk on "Ulcerative Endocarditis."

Both paper and talk were well received and elicited considerable discussion among the members. A motion was made and passed to the effect that the obstetrical fee for uncomplicated normal cases be \$15.00 in lieu of \$10.00, subsequent calls extra at usual rates. Another motion was passed that the annual dues of the Society be \$1.50 instead of \$1 which will make the total dues for the State and County Societies for next year \$5.00 instead of \$4.00.

J. W. SCOTT, Secretary.

ST. CLAIR COUNTY

The St. Clair County Medical Society held its regular monthly meeting Thursday evening Dec. 21, 1916, at the Hotel Harrington, Port Huron, Mich., at which time the annual election of officers was held. Music for the evening was furnished by Drs. Moffett, "Cello," Lohrstorfer, "Violin" and Prof. Cawthorn at the piano.

Vocal solo by Dr. C. Stockwell.

French reading by Dr. Cote.

Election of officers as follows:

President—Dr. Chester, Emmett.

Vice-President—Dr. McColl, Port Huron.

Secretary-Treasurer—Dr. W. W. Ryerson, Port Huron.

Delegate—Dr. S. K. Smith, Port Huron.

Alternate—Dr. R. K. Wheeler, Port Huron.

Dr. Duncan Campbell of Avoca was elected a member of the Society.

Dr. McKenzie was appointed by the President to read a paper at the next meeting. Dr. Clancy to open the discussion.

The Society voted to hold a meeting every two weeks.

W. RYERSON, Secretary.

Book Reviews

CONSTIPATION, OBSTIPATION AND INTESTINAL STASIS by Samuel Goodwin Gant, M.D., LL.D. Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Second edition enlarged. Octavo of 584 pages, with 258 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth \$6.00 net; Half Morocco \$7.50 net.

The subject of constipation is a broad one, and covers a field which is of interest to both physician and surgeon. The object of this volume is to present to the profession a practical treatise on the etiology, pathology, symptoms, diagnosis and treatment of constipation and obstipation. A careful perusal of the volume impresses one with its intrinsic value and scientific as well as practical presentation of the subject. Its clarity in style is refreshing. Each subject discussed is presented to the reader so that a penetrating insight is obtained and fixed, tenable ideas are acquired. Thereby one is enabled to apply the information in his daily work.

No practitioner can be without this volume and be content that he is doing all that can be done for his patient. The formulae alone are surely bound to enable one to surmount many trying conditions. The non-operative treatment will enable the physician to accomplish much and often avoid surgical interference.

It is certain that just as soon as the individual physician realizes the scope and extent of the diseases that are produced by abnormalities of the lower end of the intestinal tract and accords his patient more than superficial treatment the sooner will they cease seeking relief from advertising quacks and charlatans. Gant's work studiously perused and applied will enable the doctor to render that service of efficient degree to each individual consulting him. It is a most valuable, revised to date addition to our literature.

Miscellany

A HANDSOME BIOLOGIC HANDBOOK.

Every reader of this *Journal* should write to The Abbott Laboratories, Chicago, for a copy of its beautiful new booklet, entitled "Biologic Remedies and How to Use Them." This is a good deal more than an advertising pamphlet; in fact, it is a real textbook of biologic therapy in which the essential facts are presented in simple, straightforward, untechnical English, making the topic intelligible and interesting to any physician. This booklet contains about seventy pages and is illustrated with half-tone pictures and colored plates.

The first chapter presents the fundamental principles of biologic therapy; and there are also chap-

ters describing the manufacture and uses of bacterins, antitoxins, serums and vaccines. If you want to know when to give a bacterin or antitoxin, how to inject it, the dosage proper in each case, the reaction likely to follow, or why you sometimes fail, you will get the help you want here. One of the most useful parts of the book is a department of Clinical Applications, in which the various disease conditions are taken up in alphabetical order and suggestions given for their treatment with biologic remedies. There is a very complete index, making the contents available for ready reference.

The book, as we have already said, will be sent free to anyone who will send his name to The Abbott Laboratories. Every user of biologic remedies should secure a copy and carry it in his pocket or satchel for help in emergencies.

More Misbranded Nostrums.—The following "patent medicines" have been held misbranded under the Federal Food and Drugs Act, chiefly because of false and unwarranted therapeutic claims. Mrs. Winslow's Soothing Syrup, declared to contain 5 per cent. alcohol and 1/10 grain morphine sulphate to each fluidounce together with oil of aniseed, caraway, coriander, jalap, senna and sugar syrup, (as now marketed the preparation contains no opiate). Johnson's Iodized Extract of Sarsaparilla found to be a simple vegetable preparation with only an appreciable amount of potassium iodide. Matu-sow's Nulfey contains 51.8 per cent. sodium salicylate. An alkaloid, probably berberine, and emodin were present (*Jour. A.M.A.*, Dec. 16, 1916, p. 1865).

Bromin-Iodin Compound.—This preparation was submitted to the Council on Pharmacy and Chemistry with the following formula: "Iodin Gr. 1, Bromin Gr. 1/4, Phosphorus Gr. 1/100, Thymol Gr. 1/3, Menthol Gr. 1/3, Sterilized Oil fl. dr. 1." According to the promoters Bromin-Iodin Compound is "A Powerful Anti-Tubercular Agent for Hypodermic Use in Pulmonary and Laryngeal Tuberculosis." The Council declared the preparation ineligible for New and Nonofficial Remedies because the "formula" was impossible if it is intended to indicate the composition of Bromin-Iodin Compound; and meaningless if it is intended to indicate the ingredients used in the manufacture; and also because there was no satisfactory evidence for its therapeutic efficiency (*Jour. A.M.A.*, Dec. 23, 1916, p. 1956).

Castrox.—Castrox is a castor oil emulsion claimed to contain castor oil 50 per cent., glycerin 10 per cent. with water and emulsifying agents. It was said to be prepared by a "unique three day process with special apparatus and is more than 'just an emulsion.' It is a mutual emulsion, for the oil and aqueous solution have been united without 'forcing.'" The Council held Castrox to be an unessential modification of an established article, marketed under a proprietary name and with claims which give a false value to a simple castor oil emulsion, and therefore not admissible to New and Nonofficial Remedies (*Jour. A.M.A.*, Dec. 23, 1916, p. 1956).

More Misbranded Nostrums.—The following "patent medicines" were found misbranded under the Food and Drugs Act in the main because unwarranted and false therapeutic claims were made

for them. Smith's Kidney Remedy, found to be a hydro-alcoholic solution containing glycerin, potassium acetate, trace of alkaloid, laxative extractive plant drugs. Hill's Syrup of Tar, Cod-Liver Oil Extract and Menthol, essentially a sweetened hydro-alcoholic solution containing small amounts of chloroform, menthol, morphine and tar; ipecac, tolu, cannabis indica and wild cherry were indicated; cod-liver oil was absent. Mag-No Brand Liniment, essentially an aqueous solution of ammonia, flavored with sassafras oil and colored. Radway's Sarsaparillian, essentially a watery-alcoholic solution of sugar, potassium iodid, arsenic, a trace of alkaloids and certain plant substances. Dr. Shoop's Diphtheria Remedy, consisting of sugar syrup with a very small amount of soluble chromate, glycerin and salicylic acid. Dr. Shoop's Preventics, a tablet containing a small amount of unidentified vegetable extractive matter. Hot Porous Plaster, essentially a capsicum plaster. N. H. Downs Vegetable Balsamic Elixir, a sweetened solution of opium, ipecac, glycerin, and small amounts of calcium, potassium, and iron compounds, flavored with anise. Kopp's Baby's Friend, containing 8.5 per cent. alcohol and one-eighth grain morphine sulphate to the fluidounce. Prof. Hoff's Prescription, formerly known as Hoff's Consumption Cure. Dr. Haynes' Arabian Balsam, apparently a mixture of cotton seed oil, turpentine and oil of cumin. Russia Salve, sold as a cure for conditions ranging from "cancers" to "mosquito bites" and from "swelled nose" to "ingrowing nails" (*Jour. A.M.A.*, Dec. 23, 1916, p. 1956-1957).

Lacteol.—This appears to be a lactic acid ferment preparation. The advertising material is of the usual extravagant character. The preparation is made in Paris, since the bacteria lactic acid ferment preparations are short lived, may be inactive by the time it is used here (*Jour. A.M.A.*, Dec. 23, 1916, p. 1959).

Sodium Cacodylate in Syphilis.—While Nichols has shown that sodium cacodylate is worthless as a spirocheticide, it is still being used in the treatment of syphilis, and it is the essential constituent of venarsen, a proprietary syphilis remedy. As a result of extensive clinical trials, Dr. H. N. Cole concluded that sodium cacodylate has no spirocheticidal value. At the utmost it has perhaps a slight action on the papular and nodular syphilids, but in no case is this effect to be compared with that produced by mercury and potassium iodid. In cases of syphilis with mucous patches sodium cacodylate is worse than useless (*Jour. A.M.A.*, Dec. 30, 1916, p. 2012).

Tanret's Pelletierine.—The exact composition of Tanret's Pelletierine is not known, but is believed to be similar to the pelletierine tannate of the U. S. P. This is said to be a variable mixture of the tannates of four alkaloids of pomegranate. As only two of the alkaloids have tenifuge properties the activity of the different preparations varies with the proportion of these alkaloids which are present (*Jour. A.M.A.*, Dec. 30, 1916, p. 2030).

O-Do-Cure.—The A.M.A. Chemical Laboratory reports that a solution essentially similar to this "perspiration remedy" may be made thus: salicylic

acid 1 grain, boric acid 30 grains, alcohol 3 fluidrams, perfume sufficient, water to make 1 fluidounce. (*Jour. A.M.A.*, Dec. 30, 1916, p. 2030).

Mercuric Benzoate.—When mercuric benzoate is dissolved in sodium chloride solution for injection purposes a complex mercuric compound is produced in which the mercury is a part of the acid radical. It is safe to assume that the therapeutic effect of a given weight of mercury as mercury benzoate in a stated volume of sodium chloride solution will be the same as that of the same weight of mercury in the form of mercuric chloride in the same volume of sodium chloride solution (*Jour. A.M.A.*, Dec. 30, 1916, p. 2030).

Quinine Injection.—By taking proper precautions the number of cases of abscess formation and necrosis from the injection of quinine may be greatly reduced, but the danger of their occurrence cannot be entirely eliminated. For this reason all authorities agree that the administration of quinine by injection should be confined to the most urgent cases of pernicious malaria. The two most important precautions are, that the injection must be intramuscular and that the solution should be dilute—not stronger than ten per cent. The best salts are quinine dihydrochloride and quinine and urea hydrochloride (*Jour. A.M.A.*, Dec. 30, 1916, p. 2030).

The Status of Antipneumococcus Serum.—The injection of the proper antipneumococcus serum in pneumonia caused by pneumococcus Type 1 is believed to be beneficial, but the serum treatment of pneumonia is still in the experimental stage. The pneumococci fall into various groups according to their immunologic relations and the first requisite for a rational use of the serum treatment of pneumonia is the determination of the particular type of the pneumococcus concerned in a given case (*Jour. A.M.A.*, Dec. 30, 1916, p. 2030).

Iron Cacodylate.—While manufacturers appear most ready to take advantage of the present interest in iron cacodylate by offering this in the form of ampules, etc., they have given little help to the A.M.A. Chemical Laboratory toward the establishment of standards for this arsenic compound. Manufacturers are ever ready to sell drugs of all sorts, but in view of the small demand for little used drugs, they cannot or will not safeguard the identity and purity of such drugs (*Jour. A.M.A.*, Nov. 25, 1916, p. 1593).

Mayr's Wonderful Stomach Remedy.—More than a year ago the proprietor of Mayr's Wonderful Stomach Remedy pleaded guilty in the federal court to the charge that the claim that the nostrum was a cure for gallstones, appendicitis and all stomach, liver and intestinal diseases was false and fraudulent. Nearly a year later a placard over the store window of the Mayr establishment the following appears: "Mayr's Wonderful Stomach Remedy, is the Only Known Cure For All Stomach, Liver and Intestinal Complaints. One Dose Will Prove It." The federal Food and Drug Act should have its scope extended so that all advertising for a product shall come under the purview of the act (*Jour. A.M.A.*, Dec. 9, 1916, p. 1774).